

THE ILLUSTRATED LONDON NEWS

REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER.

No. 3664.—VOL. CXXXV.

SATURDAY, JULY 10, 1909.

With Special 36-Page Supplement: **SIXPENCE.**
The Web of the World

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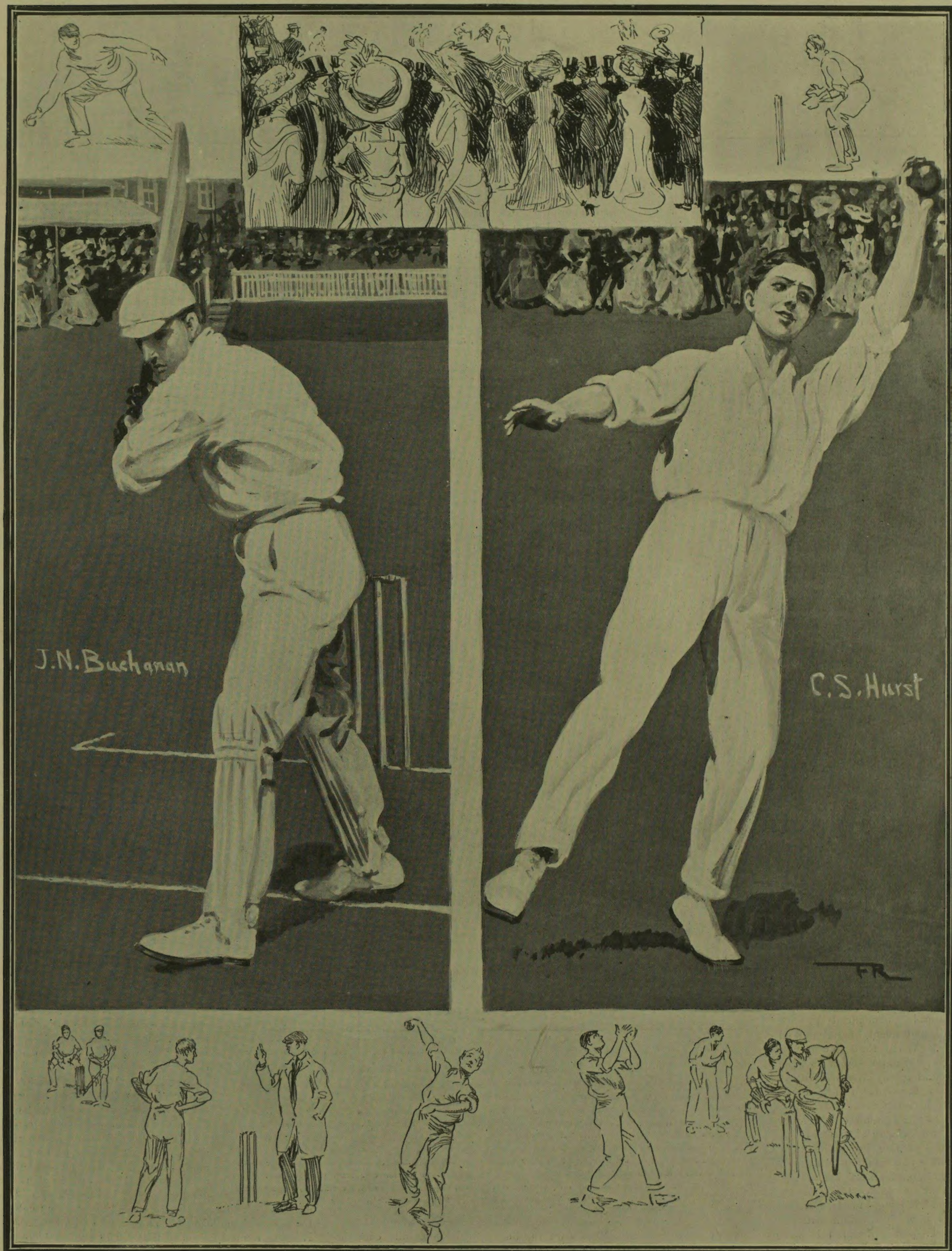


POLITICAL ASSASSINATION IN ENGLAND! THE MURDER OF SIR CURZON WYLLIE—DRAWN FROM MATERIAL SUPPLIED BY MR. D. W. THORBURN, WHO HELPED TO CAPTURE THE ASSASSIN.

Our drawing was made, as we have noted, from material supplied by Mr. D. W. Thorburn, one of those who witnessed the assassination and helped to hold the murderer until the arrival of the police, and may be taken as representing accurately the scene the moment after the crime, when Lady Wyllie was bending over the body of her husband and the assassin was in the hands of his captors. The crime takes the greater significance when it is remembered how rare is political assassination in this country. At the inquest a verdict of Wilful Murder was returned against Madar Lal Dhingra, "25, a native of the Punjab, described as an engineering student."—[DRAWN BY OUR SPECIAL ARTIST, CYRUS CUNEO.]

CAPTAINS BOTH: OXFORD VERSUS CAMBRIDGE AT LORD'S.

DRAWN BY OUR SPECIAL ARTIST, FRANK REYNOLDS.



RIVALS IN THE CRICKET FIELD: MR. J. N. BUCHANAN, CAPTAIN OF THE CAMBRIDGE ELEVEN, AND MR. C. S. HURST, CAPTAIN OF THE OXFORD ELEVEN

The match between Oxford and Cambridge at Lord's began on Monday last. The attendance suffered somewhat by the fact that the fixture clashed with Henley Regatta, but some interesting play rewarded those who witnessed the game.



By G. K. CHESTERTON.

THOSE two interesting gentlemen who combined to make up the personality of "D. S. Windell" deserve more attention than they could receive at their trial, or are likely to receive in their cells. Despite the pathetic appeals made by Mr. Herbert Gladstone and Mr. John M. Robertson, in their recent abolition of the Habeas Corpus Act, I cannot bring myself to believe that warders are tender and wily psychologists who lie in wait for faint signs of improvement in a human soul. In other words, I know, as everybody else does, that terms of scientific imprisonment are not given to improve people, but to keep them out of the way. Therefore the souls of Mr. Robert and Mr. King are likely to be neglected; and considerably less effort will be made to cure their faults than might have been made by their friends and families if they had remained outside. On this subject it is as well that we should talk no claptrap. A speaker in Parliament implied that he had no more pity for a particular criminal than for a tiger. That is a conceivable position, though quite anti-Christian. Let him lock up a tiger behind bars, but do not let him pretend that he is waiting to see when it will evolve into a domestic cat.

Let us return, however, to those beautiful objects, the souls of Mr. Robert and his partner. They are of great significance in our time; because, unlike most crimes, their crime marks not only a moral, but an intellectual revolt. Both men made pleas founded on certain modern thoughts and emotions, of which we have heard very much in modern plays, novels, and newspapers. Robert appealed to the pure sense of adventure; he suggested that he had acted by the same impulse which moves a certain type of man, politician or pirate, to raid an Empire or seize an island in the Pacific. He was an adventurer in the noble as well as in the mean sense. He claimed, in effect, to be the true Imperialist, the kind of man who has made our England what she is. Like many who make the same claim, he seems to have been of Oriental extraction, and to have been by nature nomadic and impatient of all rooted responsibilities. When a little gutter-boy, who is really hungry, steals an apple and admits that he has been reading penny dreadfuls, those unlucky forms of literature are always sternly denounced by the magistrate and keenly persecuted in the Press. When Robert, who was not hungry, stole an enormous sum of money and openly appealed to the romance of the modern adventurer, we ought, in order to be consistent, to put it to the account of the more educated works which have in our time flaunted before the imagination of the middle classes filibustering and the poetry of mad finance. The magistrates ought to talk sternly about Mr. Rudyard Kipling and Mr. Cutcliffe Hyne. If a penny dreadful leads to stealing a penny apple, a six-shilling dreadful is just as likely to lead to stealing considerably more than six shillings.

Mr. King stands as the opposite type, the type that is represented by our unadventurous plays and novels; all the grey novels about grey slums, all the drab novels about drab suburbs, all the modern attempt to make art out of the mere fact of monotony. If books of the Kipling school are the penny dreadfuls of the first type of criminal, books of the Gissing school are the penny dreadfuls of the other type. For this

man complained simply that he could no longer tolerate the mere grinding dullness of his duties; that to stand shovelling out vast sums and drawing a mean salary had been too much, not merely for his conscience, but for his nerves. Something in his soul had snapped. We have had both these types in all modern books, and have been very fond of them: it must now be seen how we like them in real life.

These are, at least, the two types that we have to fear; the adventurer of commerce, who will be content with nothing except adventures, and the drudge of com-

merce that bringeth good news. The chair I sit on is really romantic—nay, it is heroic, for it is eternally in danger. The lamp-posts are poetical; not merely from accidental, but from essential causes. It is not merely the softening, sentimental associations that belong to lamp-posts, the beautiful fact that aristocrats were hanged from them, or that intoxicated old gentlemen embrace them: the lamp-post really has the whole poetry of man, for no other creature can lift a flame so high and guard it so well. You may think all this irrelevant to the case of Mr. King and Mr. Robert. That is just where you make a mistake. This doctrine of the visible divinity in daily or domestic objects, this doctrine of the household gods, so old that it seems new, is the only answer to the otherwise crushing arguments of Mr. King and Mr. Robert. Our modern mistake has been, not that we encouraged the adventurous poetry that inflamed the soul of Mr. Robert, but that we have neglected altogether that religious and domestic poetry which might have lightened and sweetened the task of Mr. King. From the beginning there have been two kinds of poetry; the poetry of looking out of the window, and the poetry of looking in at the window. There was the song of the hunter going forth at morning, when the wilderness was so much lovelier than the hut. And there was the song of the hunter coming home at evening, when the hut was so much lovelier than the wilderness or the world. The first is expressed quite feverishly in modern literature; there is a mad itch for travel. We talk of the English as if they were the Gypsies. We talk of the Empire as if it were a vagabond caravan; as if the sun never set on it because the sun never knew where to find it. Our literature has done enough, and more than enough, for adventure and the adventurers; it has filled the soul of the Oriental Mr. Robert to the brim. But it has done nothing at all for the needs of Mr. King. It has done nothing for Piety, for the sacredness of simple tasks and evident obligations. There is nothing in recent literature to make anyone feel that sweeping a room is fine, as, in George Herbert, or that upon every pot in Jerusalem shall be written "Holy unto the Lord." Only a strong imagination, perhaps, could have felt Mr. King's work in a bank as poetical. Undoubtedly, it was poetical. Had his fancy been forcible enough he might, in the act of shovelling out three golden sovereigns, have thought how one might mean a holiday in high mountains, and another an engagement-ring, and another the rescue of a poor man from oppressive rent. Mr. King might have handed out money with magnanimous gestures, as if his hands were full of flowers or wheat or great goblets of wine. He might have felt that he was giving men stars and sunsets, gardens and good children. But that he should feel all this (though it is strictly true) is a

too severe demand on his imagination as an individual. Nothing reminded him of that. The bank did not look at all like that. And the books that he read at home could not help him; because modern books have abandoned the idea that there is any poetry in duty. It is useless now to say that desks are dreary and trains ugly: you have created a society in which millions must sit at desks and travel in trains. You must either produce a literature and a ritual which can regard desks and trains as symbolic like ploughs and ships, or you must be prepared for the emergence of a new artistic class who will blow up trains and desks with dynamite

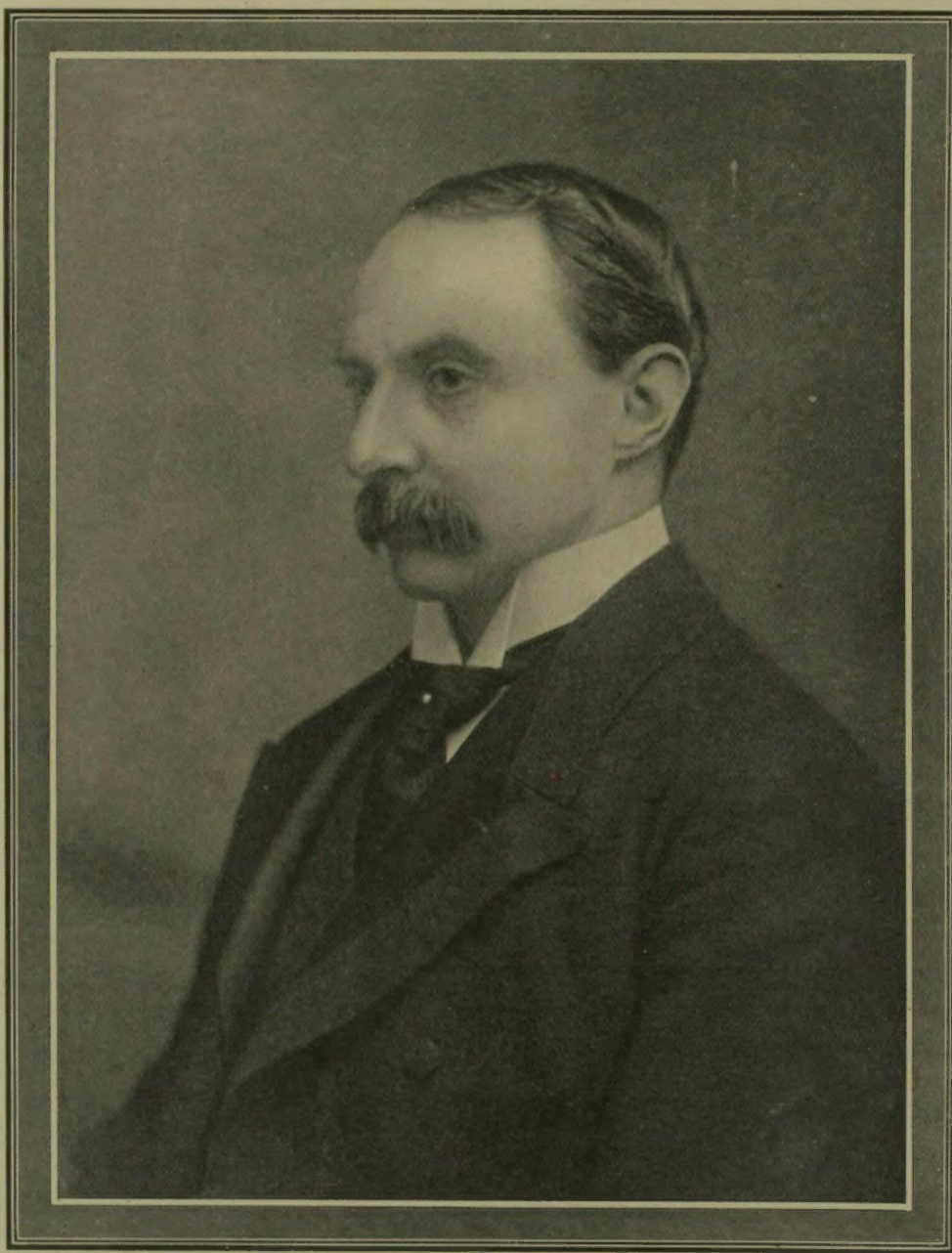


Photo. Elliott and Fry

VICTIM OF AN INDIAN FANATIC: THE LATE LIEUTENANT-COLONEL SIR WILLIAM HUTT CURZON WYLLIE, K.C.I.E., ASSASSINATED AT THE IMPERIAL INSTITUTE.

Lieutenant-Colonel Sir Curzon Wyllie, who came to so tragic an end at the hand of a fanatical Indian assassin, was one of the most popular and best-beloved of Anglo-Indian officials. Born in 1848, he was educated at Marlborough and Sandhurst, and entered the Indian Staff Corps in 1869. The next year he joined the Oudh Commission, and in 1879 he was transferred to the political department. During the Afghan War he served in Beluchistan, and he took part in the relief of Candahar. After being Military and then Private Secretary to the Governor of Madras, he became successively Resident in Nepal, Governor-General's Agent in Central India, and Governor-General's Agent in Rajputana. Retiring from the latter post in 1901, he was made Political A.D.C. to the Secretary of State for India. He had a very wide knowledge of Indian affairs and Indian Courts, and he was ever ready to show kindness to Indians of all classes, whether high or low, visiting this country, and especially to Indian students, among them the very one at whose hands he met his death.

merce, who may suddenly rebel against his drudgery. What is the cure for both; or is there any cure for either? The approximate cure exists, but it has been neglected so long that people call it a paradox. A friend of mine has made game of me in a recent book for saying that lamp-posts are poetical; that common things, the boots I wear or the chair I sit on, if they once are understood, can satisfy the most gigantic imagination. I can only adhere with stubborn simplicity to my position. The boots I wear are, I will not say beautiful upon the mountains, but, at least, highly symbolic in the street, being the boots of one

THREATENERS OF TEHERAN: MEN WHO MAY CAPTURE THE SHAH.

SUPPORTERS OF THE BAKHTIARI WHO

SEEKS TO BECOME RULER OF PERSIA.



1. A MOUNTED BAKHTIARI.

2. THREE YOUNG BAKHTIARIS.

3. A BAKHTIARI VILLAGE GROUP.

Taking advantage of the general situation in Persia, the Bakhtiari, a mountain race from the south-west of Persia, have made their long-expected movement, and a few days ago were at the gates of Teheran. According to Mr. Perceval Landon (writing in the "Telegraph") "it needed but the simplest recognition of Asiatic methods and moods to realise that for whatever purpose the Bakhtiaris were marching upon the capital of Persia, it was assuredly not with the aim of spreading the principles of the ballot-box among the Shiite sons of Islam. The blunt truth is that the Ilkhani (or Chieftain of the Bakhtiaris) believes himself to be now strong enough to grasp the throne of Persia, and that he does not intend to miss so golden an opportunity as that which is now presented. . . . Persia being in the existing state of chaos, the capture of Teheran means the capture also of the Shah." With particular regard to our Illustrations, the "givas," the footwear of the young Bakhtiaris in the second photograph, should be noted. They are characteristic of Persia. The soles are made of scraps of old rag, boiled, then stitched together, and finally hammered until they have gained the consistency of horn.



Photo. Vandyk.
MR. OSWALD PARTINGTON, M.P.,
Who has been Appointed a Junior Lord of the Treasury.

MR. C. F. G. MASTERMAN, M.P.,
Reported to be appointed
Under-Secretary for
Home Affairs.
Photo. Elliott and Fry.

PORTRAITS AND WORLD'S NEWS.

MR. J. H. WHITLEY, M.P.,
Reported likely to be Par-
liamentary Secretary to the
Local Government Board.
Photo. Russell.



Photo. Elliott and Fry.
MR. J. W. GULLAND, M.P.,
Reported to be Appointed a Lord of the
Treasury and Scottish Whip.

Personal Notes. Several further Ministerial changes have followed on the recent promotion of the Master of Elibank (the Hon. Alexander Murray) and Mr. Herbert Samuel. The former was previously a Lord of the Treasury, Scottish Liberal Whip,

and Comptroller of the Household. He will be succeeded as Lord of the Treasury by his brother-in-law, Mr. Oswald Partington, member for the High Peak Division of Derbyshire, but his other office, that of Comptroller of the Household, it is said, will probably fall to a Peer. Mr. Partington is a director of the great paper-making firm of Olive and Partington, at Glossop. His appointment will necessitate a bye-election. Mr. Herbert Samuel was Under-Secretary for the Home Department, and his successor in that office will be, it is said, Mr. C. F. G. Masterman, the Member for West Ham, hitherto Parliamentary Secretary to the Local Government Board. Mr. Masterman had a distinguished career at Cambridge, and is well known for his literary and philanthropic work, being, among other things, secretary of that excellent institution the Children's Country Holiday Fund. In connection with the vacancy he will leave at the Local Government Board the names of Mr. Herbert Lewis and Mr. J. H. Whitley have been mentioned. Mr. Whitley is a Junior Lord of the Treasury and Government Whip, and has represented Halifax since 1900. Mr. J. W. Gulland, member for the Dumfries Burghs, has been thought likely to be appointed Lord of the Treasury, and Scottish Liberal Whip. Mr. Gulland is a well-known Edinburgh man, and is Secretary to the Scottish Liberal Committee in the House of Commons.

There is always a friendly rivalry between Liverpool and Manchester, and while this week "Cottonopolis" has loomed larger in public interest through the opening of the Royal Infirmary, the sister city was not to be outdone in demonstrations of loyalty. Liverpool held holiday on Monday, to allow her Territorials to muster at Knowsley, and was *en fête* even more on Wednesday, when their Majesties paid their welcome visit. A loyal address was presented to the King, on behalf of the Corporation, by the Right Hon. the Lord Mayor of Liverpool, Mr. H. Chaloner Dowdall, a prominent solicitor of that city.



DR. CAWAS LALCACA,
The Second Victim of Sir Curzon Wylie's
Assassin.

Dr. Cawas Lalcaca, the second victim of Dhangra's revolver, was a prominent doctor at Shanghai, where he had lived for the last twenty-five years. He was Surgeon-Major and Medical Officer of the Volunteers there, and several times offered for active service, although a private practitioner. He also organised the Fire Brigade Volunteers. He was a Parsee, and born at Ahmedabad in 1863. After studying at Bombay, he came to London in 1884, and took his L.R.C.P. In 1886 he took his M.D. at Brussels. He was well known throughout China, where he travelled extensively, and was decorated by the Chinese Government.



Photo. Barrand.
MR. H. CHALONER DOWDALL,
Lord Mayor of Liverpool,
Who Received the King on Wednesday.

Universal sympathy has gone out to Lady Curzon Wylie, on whom has fallen the greatest bereavement that a woman can suffer, and in circumstances the most sudden and cruel that could be imagined. The very cruelty and injustice of her husband's death, however, throw into stronger relief the nobility of his character and the value of his political services. As a prominent Hindu has said, "He was the best friend India ever had," and

he died, in a building intended as the central shrine of Imperial patriotism, still working for Anglo-Indian friendship. This, at least,



Photo. Vandyk.
LADY CURZON WYLIE,
Whose Husband, Sir Curzon Wylie,
was Assassinated.

will be a consoling thought to the widow in her affliction. Lady Curzon Wylie is a daughter of Mr. David Fremantle Carmichael,

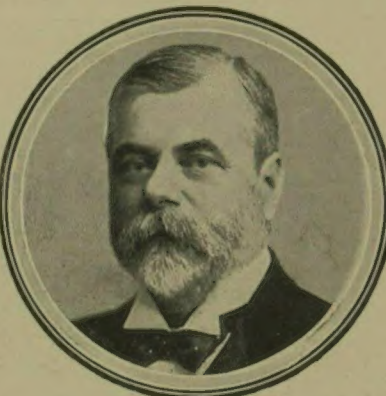


Photo. Elliott and Fry.
THE LATE HON. SIR GEORGE SHENTON.
Formerly President of the Legislative Council
of Western Australia.

late of the Madras Civil Service, and was married to Sir Curzon Wylie in 1881. She shared his sympathies, and has always de-



Photo. Russell.
THE LATE LADY BURDON-SANDERSON,
Well Known in Literary Society at Oxford.

voted herself to helping him in the furtherance of goodwill between this country and the people of India.

Western Australia recently sent over one of her most distinguished

sons to die in the Motherland. The Hon. Sir George Shenton, of Crawley Park, Perth, W.A., whose death occurred in London last week, was for twenty years a member of the Legislative Council of that Colony, and in 1892 was elected president. Before that he was for two years Colonial Secretary. He was Mayor of Perth no fewer than eleven times, and was also chairman of the Western Australian Bank. His knighthood was conferred in 1893.

At a meeting of the British Academy last week, Mr. S. H. Butcher, M.P., was elected President, in succession to Sir E. Maunde Thompson, who recently resigned his position as Director of the British Museum. Mr. Butcher, who has represented Cambridge University since 1906, is a very distinguished classical scholar, and is the joint-author, with Mr. Andrew Lang, of a famous prose translation of the *Odyssey*. He was formerly a Fellow and Lecturer at University College, Oxford, and from 1882 to 1903 was Professor of Greek at the University of Edinburgh.

St. Paul's School has this week been celebrating the four-hundredth anniversary of its foundation by Dean Colet. New laboratories were opened by Lord Curzon, and the festivities also included a performance of Milton's "Comus," a soirée, a masque, and an Old Pauline ball. The present High Master (for at St. Paul's the High Master soars above mere Head Masters) is the Rev. Dr. A. E. Hillard. He is an Oxford man, and was for nine years chaplain and master at Clifton, and six years Head Master of Durham School. He is the author of a *Life of Christ*, and has edited the Gospels and the Acts, while North and Hillard's "Latin and Greek Composition" is a work very familiar in school class-rooms.

Lady Burdon-Sanderson, who died last week in Aberdeenshire, was distinguished both in herself and in her relationships. She was the widow of the late Sir John Burdon-Sanderson, Professor of Medicine at Oxford, and at the time of her death she was writing his biography. She was on the Council of Somerville College, and a member of the National Union of Women Workers. The late Lord Chancellor Herschell was her brother, and one of her nephews by marriage is the present Secretary of State for War, Mr. Haldane. She was seriously injured last October by being knocked over by a truck on the platform at Aberdeen Station.

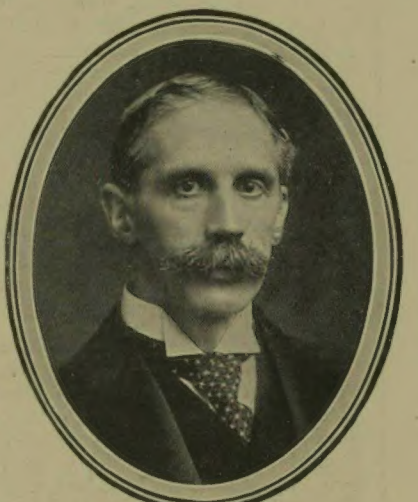


Photo. Russell.
MR. S. H. BUTCHER, M.P., LITT.D.,
Elected President of the British Academy.

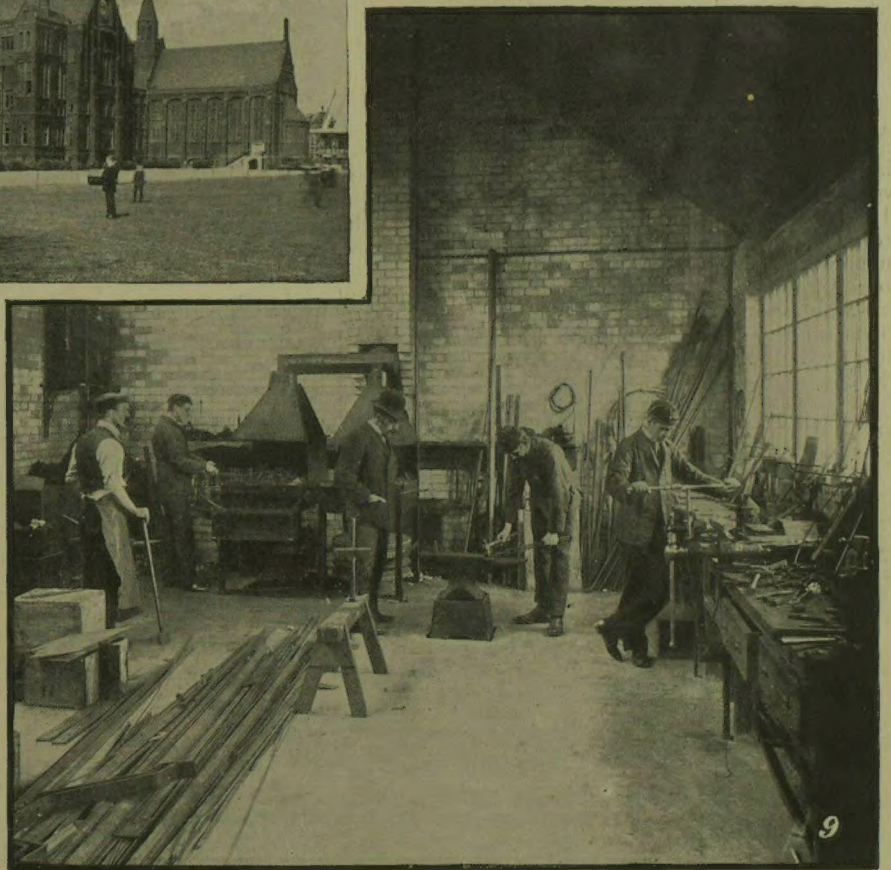
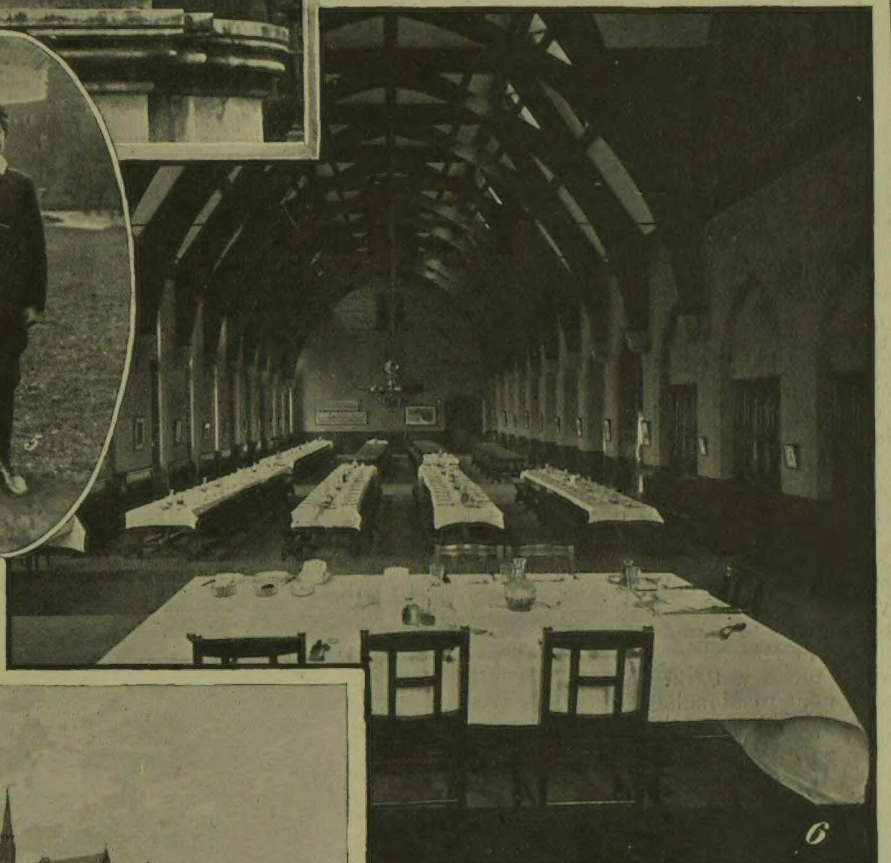
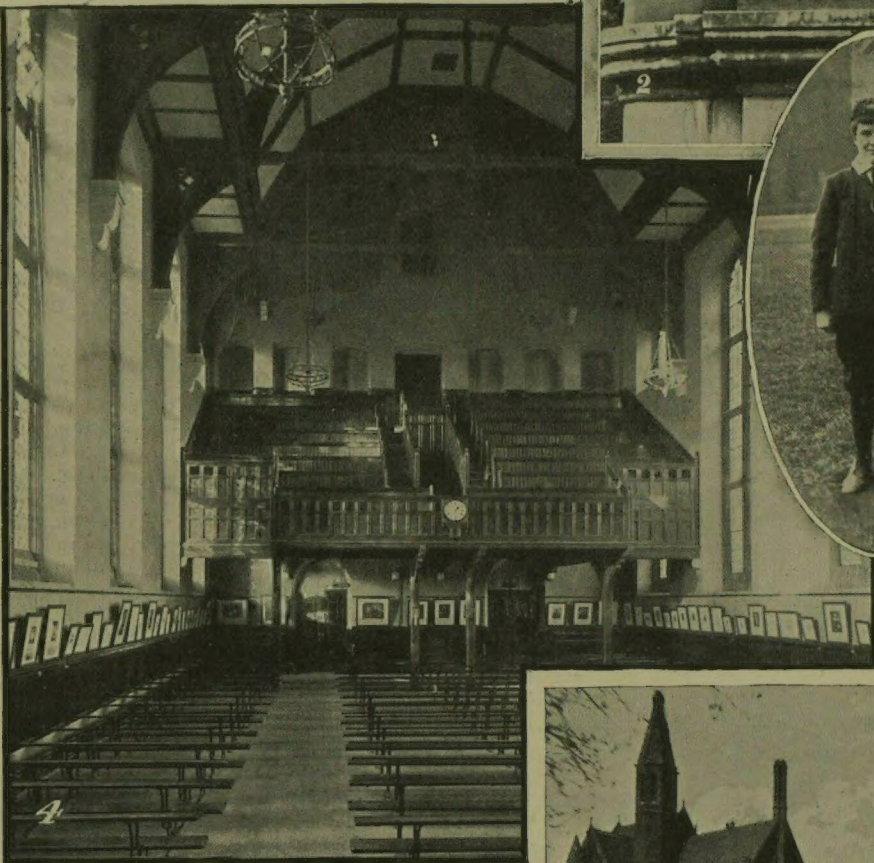
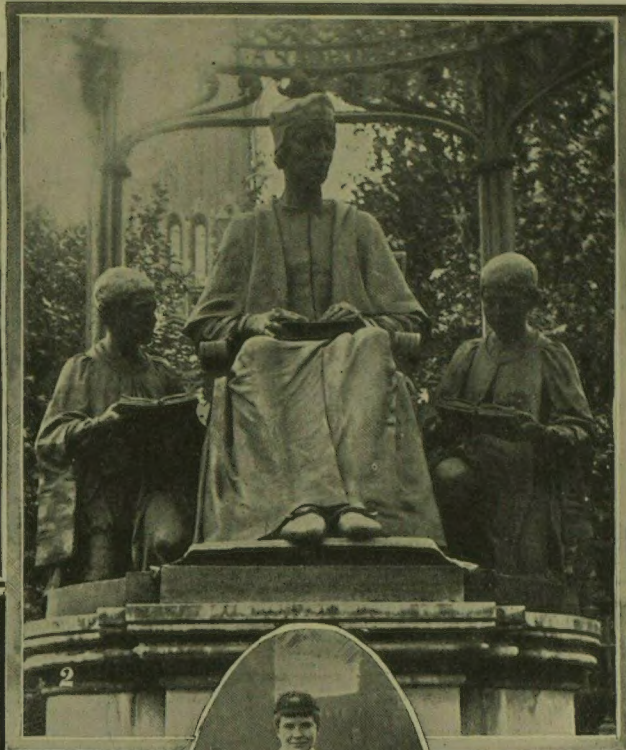
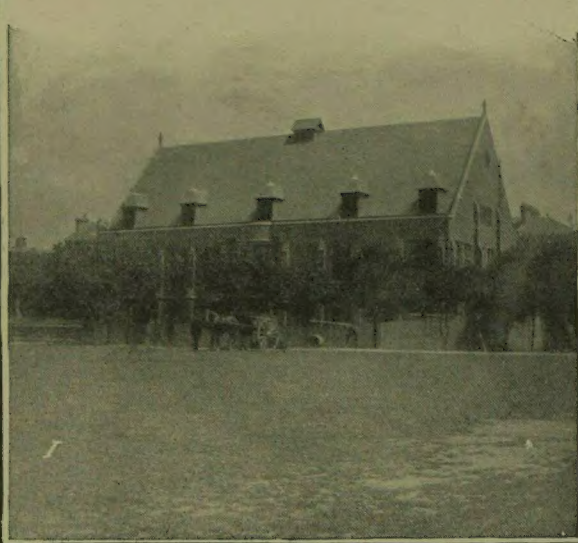


Photo. Clarke and Hyde.
THE REV. A. E. HILLARD, D.D.,
High Master of St. Paul's School.

Parliament. Three long, late sittings a week continue to be devoted to the Finance Bill. Many concessions have been made by the Chancellor of the Exchequer in the case of the increment duty, but they have not conciliated the Opposition nor facilitated the progress of one of the most controversial measures ever submitted to Parliament, and the Bill will occupy two or three years at the present rate of progress. Mr. Balfour's leadership of the critics has become more keen and animated, and although the attendance of his followers is sometimes slack, controversy has been always well maintained. Technical discussions have been relieved by brilliant passages between Mr. Lloyd-George or the Attorney-General and occupants of the Front Opposition Bench. These have interested even the plain-clothes policemen, who nowadays form so considerable a proportion of the audience in the Strangers' [Continued overleaf.]

THE SCHOOL THAT COMMEMORATES THE FISH OF THE MIRACULOUS DRAUGHT.

THE FOURTH CENTENARY OF ST. PAUL'S SCHOOL.



1. ERECTED IN COMMEMORATION OF THE FOURTH CENTENARY OF THE SCHOOL: THE NEW SCIENCE BUILDINGS.
2. IN MEMORY OF THE FOUNDER: THE STATUE OF JOHN COLET, DEAN OF ST. PAUL'S, IN THE GROUNDS.

3. THE ORIGINAL ST. PAUL'S SCHOOL: THE BUILDING PROVIDED FOR THE USE OF SCHOLARS WHO NUMBERED AS MANY AS THE FISHES OF THE MIRACULOUS DRAUGHT.

4. THE LECTURE HALL.
5. WEARING THE SILVER FISH THAT RECALLS A CONDITION OF THE FOUNDATION: A FOUNDATION SCHOLAR.

6. THE DINING-ROOM.
7. THE LIBRARY.
8. THE SCHOOL FROM THE PLAYING-FIELD.
9. THE SMITHS' SHOP.

The fourth centenary of St. Paul's School was celebrated on Wednesday last (the 7th), when Lord Curzon of Kedleston, Chancellor of Oxford University, opened the new science buildings erected by the Governors in commemoration of the event. It may be noted that the famous school was founded in 1509, "in the east end of St. Paul's Church," by John Colet, Dean of St. Paul's, who provided for 153 pupils, known as Foundation Scholars. This number was chosen as that of the fish in the Miraculous Draught. To this day, each Foundation scholar wears a little silver fish as a badge. The day boys now number over 600.—[PHOTOGRAPHS NOS. 2, 3, AND 5 BY CLARKE AND HYDE; 4, 6, 7, AND 9 BY RUSSELL; 8 BY L.N.A.]

Gallery. Liberals hope gradually to break down the resistance of the Unionists, and in this expectation they sit through the small hours of the morning. A result of the pressure is that other business attracts comparatively little attention. Only a few members, as a rule, arrive in time for questions, and most of them are too exhausted by the protracted sittings on the Finance Bill to attend in the latter part of the week, when Supply and minor measures are considered. One of the most interesting announcements made recently was in connection with Navy works, Mr. Lambert stating that dock-construction was being pushed on rapidly by the Admiralty and that two floating docks were to be built for ships of the largest size. Complaint was made of delay in proceeding with the work at Rosyth, but the House was informed that it was now being pressed forward, and that the contractor would be encouraged by a bonus of £800 per week for earlier completion than the contract time of seven years. The changes in the Government, necessitated by recent resignations, appear to have caused some difficulty. It was announced, however, at the beginning of the week, that Mr. Masterman, who has been Mr. John Burns' third colleague at the Local Government Board—his predecessors having been Mr. Runciman and Dr. Macnamara—would become Under-Secretary for Home Affairs; and that Mr. Oswald Partridge, a popular and hospitable member, would be a Whip, with the office of Junior Lord of the Treasury.

The King at Manchester.

(See our Supplement.)

During their stay at Knowsley with the Earl and Countess of Derby, their Majesties the King and Queen succeeded in evoking the hearty loyalty of Lancashire in divers ways. On Monday took place the great review of West Lancashire Territorials in Knowsley Park, and on Tuesday another review at Worsley Park. On Tuesday morning their Majesties went to Manchester in order to open the magnificent new buildings of the Royal Infirmary in that city. We have taken this occasion to present our readers with a descriptive Supplement, abundantly illustrated, dealing with the various commercial activities in the great capital of the cotton trade. Though the making of cotton, with its allied trades, is, of course, the paramount industry at Manchester, yet it will be seen that, as is natural in a city of such size and importance, there is a great variety of other manufactures there as well. Our Supplement will, we think, be of interest, not only as a page in the history of British industrial development, but also from the light it throws on the way in which many familiar objects—such, for instance, as shirts, handkerchiefs, hats, macintoshes, etc., come into being in the wonderful processes that intervene between the arrival of the raw material and the production of the finished article. Much of the explanations of the marvelous machinery now used will doubtless be a revelation to those who have not seen it. Another feature of modern Manchester is the great improvement in the conditions under which the factory hands work, so different from the hardships of the old days. The

Manchester factory workers, it has been said, if short of stature, possess abundant lung-power, and they used it to the full in welcoming the King and Queen on Tuesday. The whole ceremony was an immense success. On the way to the Royal Infirmary their Majesties stopped at the Victoria University, where an address was read by

Crisis in Persia. Affairs in Persia have now reached an acute crisis. In addition to the Nationalist movement, which has been so long proceeding in a somewhat desultory manner, the Shah's throne has been endangered by the recent rising of the Bakhtiari, a race of warlike mountaineers from the south-west of Persia. They, it seems, have long been awaiting a favourable opportunity to descend from their mountain fastnesses and strike at their Persian rulers. The final result it is too early yet to foresee, for it will not be a fair fight between the two. The situation is complicated by the presence and intervention of the British and the Russians, as well as by the revolutionary movement, which, in its origin, at any rate, was quite separate and distinct from the Bakhtiari rebellion, however they may subsequently join forces for their mutual advantage. It has been suggested that the object of the Bakhtiari chief, who has no sympathy with democratic forms of government, was not to assist the Nationalists, but merely to seize a good chance of usurping the Persian throne. Meantime, a fight has taken place at Shahabad between the Nationalists and the force of Cossacks which Russia has sent to protect the Shah.

Independence Day in America.

Many Americans are beginning to find the methods of celebrating the Fourth of July adopted by some of their fellow-citizens somewhat trying to the nerves, if not distinctly dangerous. Not content with much flying of the Stars and Stripes, the more exuberant spirits express their patriotic fervour by letting off toy cannons, bombs, and giant fireworks. Three deaths in New York alone last Sunday were attributed to Independence Day demonstrations, and several more on Monday, the victims being all children. At Louisville Mr. Arthur Langham, recently President of the Provident Life Insurance Society of New York, and uncle of Baroness Speck von Sternburg, lost his life through the explosion of a giant cracker. The American taste for bigness (thus exemplified in crackers) was vigorously denounced in a memorable Fourth of July address delivered by Dr. Williams, Bishop of Michigan, at St. Bartholomew's Church, New York. He drew a distinction between material bigness and spiritual greatness, but admitted that there were signs of improvement in the national character.

The Indian Assassin.

No event for many years has so deeply stirred the indignation of the public as the assassination of Sir Curzon Wylie. It has also brought home to the British people as nothing else has lately the urgency of the Indian problem. As long as the bomb and the dagger and the revolver confined their operations to India itself, the people of this country were hardly able to realise the situation. The outrages were committed so far away that they did not strike deep into the public mind. Now, however, that the fanatic is at work in our very midst, we can see Indian affairs in a new and lurid light. It will perhaps cause us to revise our views as to the extent of liberty to be allowed to seditious agitation, and the apportionment of legal, as well as moral, responsibility between the agitator and the fanatical fool whom he incites.



Photo. Whitlock.

CAUSE OF THE FIRST VISIT PAID TO BIRMINGHAM BY THE KING SINCE HIS CORONATION: THE UNIVERSITY OF BIRMINGHAM, THE NEW BUILDINGS OF WHICH WERE OPENED BY THE KING ON WEDNESDAY LAST, JULY 7.

The University of Birmingham is the successor of the Mason University College, which was opened twenty-nine years ago. The success that attended the work of the College gave rise to the desire to obtain for it the status of a university. In 1900 a royal charter was granted. Soon after this, it was decided that the accommodation was insufficient, and new buildings were planned.

the Vice-Chancellor, Dr. Hopkinson. At the Infirmary another address was read by the Chairman of the Board of Management, Mr. William Cobbett, now Sir William,

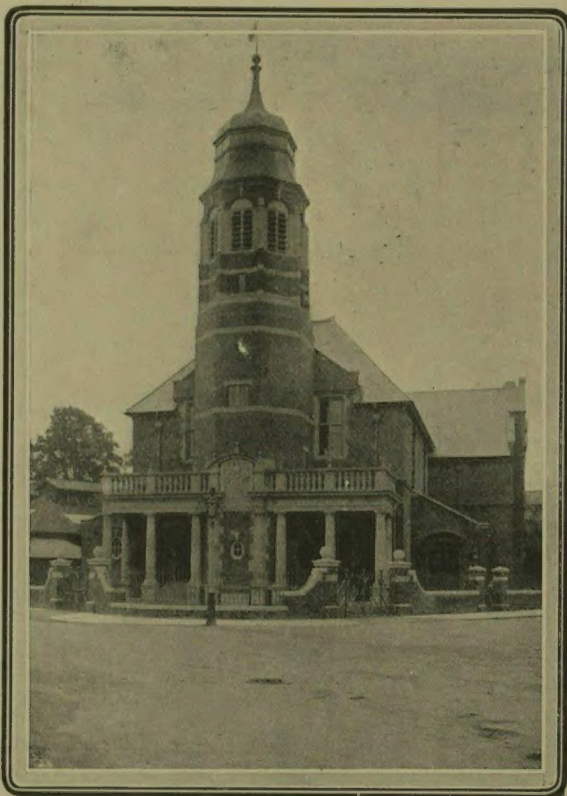


Photo. Syred.

OPENED BY THE KING: THE NEW SPEECH-ROOM OF RUGBY SCHOOL.

The King declared open the new speech-room at Rugby on Saturday of last week. Other illustrations of the royal visit appear elsewhere in this number.

for his Majesty thereupon conferred on him the well-deserved honour of knighthood, in recognition of his sterling services towards the welfare of the institution.

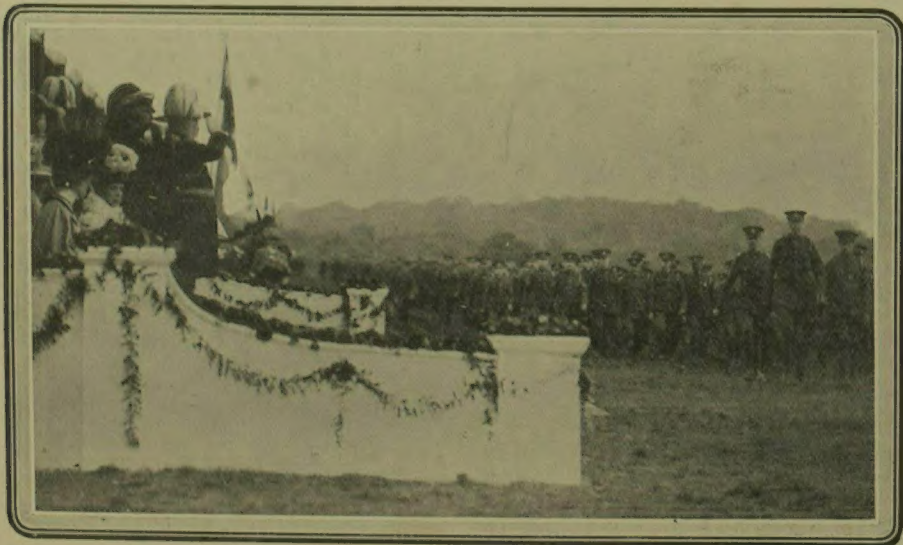


Photo. Sport and General.

THE KING REVIEWING THE WEST LANCASHIRE TERRITORIAL DIVISION: THE MARCH PAST.

The King, who was accompanied by the Queen, reviewed the West Lancashire Territorial division in Knowsley Park on Monday last. Sixteen thousand men were on parade. The colours that were to be presented were consecrated, were dropped before the King, who touched them, and were then given to the officers appointed to receive them. They were then saluted; and the march past took place.



Photo. Illustrations Bureau.

AMERICA WINNING THE INTERNATIONAL CUP FOR POLO: LAST MONDAY'S PLAY AT HURLINGHAM.

By winning the second test match, America won the International Cup for Polo on Monday last. The fact that the team from across the herring-pond has thus vanquished England has caused much interest and a good deal of comment, and has proved that the Americans can beat us, for the moment at all events, at a game which we used to consider peculiarly our own.

THEIR GRACES: THE LEADERS OF BRITISH SOCIETY.

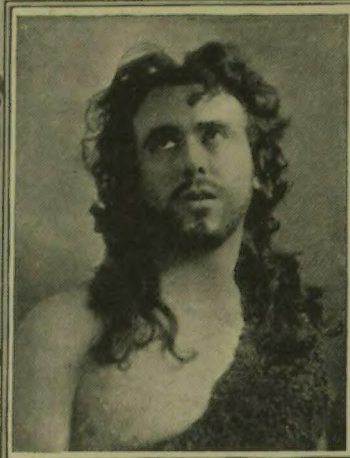
DRAWN BY OUR SPECIAL ARTIST, G. C. WILMSHURST.



No. VIII.—The Duchess of Wellington.

Before her marriage, which took place in October 1872, the Duchess of Wellington was Kathleen Emily Bulkeley, daughter of Captain Robert Griffiths Williams, brother of Sir Robert Bulkeley Williams-Bulkeley, Bt. Their Graces have four sons and two daughters. The Duke of Wellington is also Marquess Douro, Marquess and Earl of Wellington, Somerset, Viscount Wellington of Talavera and Wellington, and Baron Douro of Wellesley, all in the United Kingdom; Earl of Mornington, Viscount Wellesley and Baron of Mornington in Ireland; Prince of Waterloo in the Netherlands, Duke of Ciudad Rodrigo and a Grandee of the First Class in Spain, Duke of Vittoria, Marquess of Torres Vedras, and Count of Vimiera, in Portugal.

ART & MUSIC AND THE DRAMA



ART NOTES.

THE Hogarth Fair, at London University, being a passing show, the July May-poles are packed away and the Morris dancers, along with the leader from the country who combined the gravity of holy orders with the sprightliness of a lamb, are gone their ways. But the pictures and drawings exhibited in the portion of the Gower Street premises occupied by the Slade School bore a very permanent significance, for they covered no less a field than that which has been

THE NEW COVENT GARDEN BARITONE: M. FORSELL, WHO HAS APPEARED SUCCESSFULLY AS DON GIOVANNI.

M. Forsell, who is a Swede, made his London debut at Covent Garden last week, and is a welcome recruit to the operatic stage of this country. The photograph shows him as Jokanaan in Richard Strauss' "Salome."

Photograph by Heckscher.

sown, and reaped, during Professor Brown's tenure of the Chair of Fine Art. The work, both of masters and past pupils, has been familiarised by the New English Art Club, to which the Slade student sends his canvases as inevitably as the Academy student sends his to Burlington House.

But who shall dissect the Slade, or apportion its praises, saying whether Professor Brown and Mr. Tonks were most lucky in their pupils, or the pupils most lucky in their teachers? Mr. John was not made in any school, but the Welsh mountains could not have taught him to draw as he was taught at the Slade; Mr. Orpen, perhaps, is more of the made man, his schooling counting for a great deal, and yet his talent came with him from Dublin. Finality



The first professional actress in England, named Margaret Hughes or Ann Marshall—

appeared as Desdemona in Killebrew's company at the Old Cockpit Theatre in Drury Lane about 1660

making pictures; while the canvas painted in his later manner lacks the magic and rhythm of such a composition as "The Way Down to the Sea," now hanging at the new English Art Club. Three of Mr. John's drawings, however, displayed the gravity and grandeur of his style at their best. Mr. Tonks was more generous in his selection, and afforded us the pleasure of



Photo, Dover Street Studios.

THE NEW MIMI: Mlle. KOUSNIETZOFF IN "LA BOHÈME." Mlle. Kousnietzoff, of the Imperial Opera, St. Petersburg, has already appeared successfully at Covent Garden as Marguerite in Gounod's "Faust" and as Mimi in "La Bohème." It is to be hoped that she will be heard as Juliet.

reviewing that bravely lighted interior, "The Bird-Cage." Mr. Tonks enters upon his little Chelsea morning-room interior with about the same gusto as that with which Tintoretto entered upon his "Paradise," and he attacks his bowl of flowers with the energy that Turner took to a sunset. I do not mean that Mr. Tonks's manner is frantic—indeed, it is extraordinarily skilled and collected. But his ardour is awakened by a bunch of flowers or ribands, and the problem he sets himself to solve is that difficult one of daylight that is caged, like the bird in his picture, between four narrow walls.

Mr. Orpen's "Fracture," painted immediately after he left the Slade, if not while he was yet a student, attracted considerable attention at the "New English," and it has not lost its attraction. But it is neither so actively humorous nor so actively painted as his later work, and we are inclined to think that the black coat in "The Bar" is worth all the incident and detail of the earlier picture. Another interesting interior in contributed by Mr. Stabb.

A NEW SOCIETY PLAYWRIGHT: MRS. GEORGE CORNWALLIS-WEST (LADY RANDOLPH CHURCHILL).

Mrs. George Cornwallis-West's play (her first), "His Borrowed Plumes," was produced at the Hicks Theatre this week for a series of four matinées. In the cast were Mrs. Patrick Campbell, Mr. Dawson Milward, and Mr. Henry Ainley.

Photograph by Lafayette.

MUSIC.

ALREADY the preliminary details of the forthcoming season of Promenade Concerts have been issued to the Press. Mr. Henry J. Wood will conduct the

concerts, the opening night is fixed for Aug. 14, and Mr. Arthur Catterall, of the Manchester R.C.M., has been engaged as leader of the violins.

The competition between the leading London orchestras waxes very keen. The New Symphony players have secured the Sunday afternoon series at Albert Hall, replacing their London Symphony brethren. The London Symphony players will probably give a series of evening concerts on Sunday nights at Covent Garden. Mr. Beecham's fine orchestra is to take a prolonged autumn tour in the provinces, and will cover much of the ground traversed by rival provincial orchestras. The Queen's Hall Orchestra finds plenty to do at Festivals and in the house from which it takes its name; but music must find a still larger number of patrons in this city if the four large orchestras, to say nothing of the smaller ones, are to find adequate support. Year by year the ranks of those fit to play in our leading orchestras are swelling, and already the supply of competent instrumentalists is largely in excess of the demand.

MME. DE VERE SAPIO AS THIRZA IN "THE WRECKERS," AT THE AFTERNOON THEATRE.

It seems likely that the present musical season will close early. Already the attractions of the concert platform are on the wane: in place of half-a-dozen concerts a day we find no more than one or two. For the most part the great virtuosi have gone from our midst and are pursuing their triumphs in other lands. Covent Garden now becomes the centre of attraction, and to justify the promises of the prospectus the Syndicate must produce two novelties ("Tess" and "La Habanera") and give us one or two more revivals, including "Roméo et Juliette," in the next three weeks—a very considerable accomplishment at the moment when the season's contracts are running out. In the past fortnight the authorities have been marking time, and merely putting new singers into old parts. Miss Edith de Lys, who sang in the autumn season two years ago, has appeared as Aida, and Mme. Destinn as La Tosca, while Signor Zenatello is singing some of his favourite rôles. "Louise" has proved more successful than "Pelléas et Mélisande" in attracting the difficult Covent Garden audience, and Charpentier's remarkable opera bids fair to take its place in the regular repertory. The experiment of giving matinées in grand season succeeded so well last week that it is to be repeated.



Photo, Dover Street Studios.

MME. MARIA GAY AS ORPHEUS IN GLUCK'S "ORFEO," AT DRURY LANE.

of praise for an art school is, perhaps, that it has been as clever in the making as in the making of artists, and there should be no end to our thanks for the work the Slade has accomplished in diverting the attention and aims of young people who might otherwise have had long and prosperous Academical careers. While most art-schools are so many nurseries attached to Burlington House, measuring their success by the space their "old boys" occupy on the line, the Slade has never encouraged the brazen manufacture of pictures. It is as pleased with a student who can make a fine drawing as with one who can make a fine painting: that the Slade still breeds, or discovers, great draughtsmanship, is witnessed by three pen-and-ink studies, shown during the Fair, by Miss Frances Jennings, who, we believe, has only just left the Slade to follow the sculptor's calling. Her method of expression, free from all flourish, recalls M. Rodin's when he seeks to set down upon paper actions too swift and accidental for the modeller.

Among Mr. John's numerous contributions in paint to the Slade Exhibition, "In the Tent" alone had beauty; several of the others carry us back to the time when it was thought he possessed the genius for making drawings and less than a talent for



THE COMMAND PERFORMANCE OF "THE WRECKERS": A SCENE FROM MISS ETHEL SMYTH'S OPERA.

The King and Queen arranged to see a performance of "The Wreckers" on the 8th (Thursday).

THE WHITE CITY ON THE SEASHORE: THE DANISH NATIONAL EXHIBITION AT AARHUS, THE SECOND LARGEST TOWN IN DENMARK.



1. OUTSIDE THE HALL OF INDUSTRY—ON THE LEFT, THE HALL AND THE "HORN-BLOWER" COLUMN; IN THE CENTRE, THE TUBORG TRIUMPHAL ARCH.

2. THE HALL OF ELECTRICITY WITH, ON THE RIGHT, THE MACHINE HALL WITH GIANT ANVILS AT THE ENTRANCE.

3. THE HALL OF AGRICULTURE, WITH, ON ITS RIGHT, THE TOWER OF THE HALL OF ELECTRICITY AND THE ICELAND AND FAROE ISLANDS BUILDING.

4. THE GROUNDS OF THE EXHIBITION, LOOKING TOWARDS THE "HORN-BLOWER" PILLAR AND THE TUBORG ARCH.

5. A GENERAL VIEW IN THE GROUNDS OF THE EXHIBITION, LOOKING TOWARDS THE HALL OF ELECTRICITY.

Aarhus, the second largest town in Denmark, boasts with good reason of its White City on the Seashore, the Danish National Exhibition that is being held within it, and that will be an attraction until September. The grounds of the exhibition and the buildings are alone well worth seeing, but all is by no means outward show; the exhibits are as interesting as they are varied. Apart from the exhibition, Aarhus itself is a centre that no visitor to Denmark ought to miss. It is a cathedral town, and its bishopric was founded, in the tenth century, by Otto I.

[PHOTOGRAPHS BY HERMANSEN.—SEE ARTICLE ELSEWHERE IN THIS NUMBER.]

THE TRENCH OF DEATH: THE DOCK DISASTER AT NEWPORT.

PHOTOGRAPHS BY COLLINS.



1. BEFORE THE DISASTER: THE FATAL TRENCH BEFORE THE TIMBERS SHIFTED AND THE EARTH CAVED IN, BURYING MANY WORKMEN.

2. AFTER THE DISASTER: THE TRENCH AS IT APPEARED AFTER THE COLLAPSE WHICH CAUSED THE BURYING ALIVE OF MANY MEN.

The trench that collapsed was part of the extension of the south dock of the Alexandra (Newport and South Wales) Docks, was fifty feet deep, and was almost complete. At the time of the disaster between fifty and sixty men were at work in it, and it is feared that nearly half of them have perished. The need for quick rescue was very great, for the pumps which kept under the water that percolated from the river Ebbw were wrecked at the time of the collapse, and by the night of the accident the trench was flooded.

A DISASTER OF WHICH HEROES WERE BORN: THE DOCK DISASTER AT NEWPORT.



1. SEEKING TO SAVE THOSE BURIED BENEATH THE WRECKAGE; A RESCUE-PARTY AT WORK AFTER THE DOCK DISASTER.

2. TOM LEWIS, THE FOURTEEN-YEAR-OLD HERO WHO VOLUNTEERED TO CLIMB DOWN BETWEEN THE NARROW OPENINGS THROUGH THE TIMBERS IN THE TRENCH, WORKED THERE FOR NEARLY TWO HOURS, AND WAS WITHIN AN AGE OF BEING KILLED.

3. HEROES MADE BY THE DISASTER—ENDEAVOURING TO RESCUE THE BURNING MEN FROM THE DÉBRIS.

As is generally the case with such affairs, the terrible dock disaster at Newport brought its heroes to the front. The rescue-parties as a whole worked splendidly, and there were several cases of great individual heroism, not only on the part of those who were seeking to save, but on the part of those who were entombed. Notable amongst the former is the case of Tom Lewis, the fourteen-year old son of a working stevedore, who volunteered to crawl through the narrow openings between the fallen timber, went to the aid of an imprisoned man, and worked head downwards for nearly two hours to free him. Just as he seemed to have succeeded there was a sliding of earth and breaking of timber, and the lad was hauled back to the surface only just in the nick of time. The man he had sought to save perished—[PHOTOGRAPHS BY ILLUSTRATIONS BUREAU AND BOLAK.]

AT THE SIGN OF ST. PAUL'S



THE REV. DOUGLAS MACLEANE.

Whose book, "Our Island Church," *à propos* of the Church Pageant, has just been published by Mr. Grant Allen.
 Photograph by Royal Central Photo. Co., Salisbury

FRANCIS BACON
1561-1627LORD VERULAM
1627

DR. T. L. BATY,

Author of "International Law," a new book which is appearing through Mr. John Murray.
 Photograph by Histed.

ANDREW LANG ON HONOURS, AND OTHER MATTERS.

A NEW List of Birthday Honours has appeared, and one observes with pleasure that Literature is not neglected. The good chevaliers Sir Henry Lucy and Sir Beerbohm Tree have won their golden spurs; also, some other "squires of name"—of names, indeed, which are not known to me, in connection with the practice of literary arts. The late Sir Walter Besant used to utter lamentations over the official neglect of proficiency in *belles lettres* when honours were being distributed. Now he could find no matter for complaint.

A lady recently made to me, in a moment of inspiration, some suggestions of merit. It is an awkward thing for a novelist or a manager-actor not to know, in his life-days, where he is to be buried. His dear family also, as he takes his last embrace, are deplorably puzzled. May the parent be laid with his ancestors, if he had ancestors, or must he repose in Westminster Abbey?

You never can tell. No sooner is the breath out of the body of the distinguished actor or novelist than articles

are written in the I suspect that the halfpenny journals ready in stock,

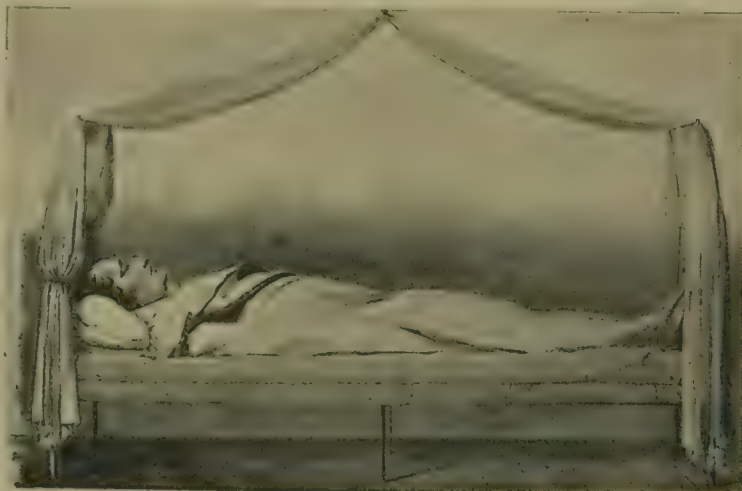
"Is Shaw" (or any other great man) "to Sleep in Westminster Abbey?" That is the heading of the article. The title is also "writ large" on posters. There is much excitement. Editors telegraph to total strangers, to myself for example, asking my

newspapers. Indeed, conductors of our have the articles like obituaries.



THE LION'S CAGE: THE OLD HOUSE AT LONGWOOD, ST. HELENA, IN WHICH NAPOLEON LIVED AND DIED.

"On arriving at St. Helena on 17th Oct., 1815, Napoleon spent one night at James-town. . . . He then settled in a little cottage called 'The Briars.' . . . On 10th Dec., 1815, he was able to move to Longwood, but found himself limited to extremely restricted boundaries, which he could not cross unless accompanied by an English officer."



THE DEAD LION: THE BODY OF NAPOLEON AT LONGWOOD.

Napoleon died on May 5, 1821. In his will he wrote, "I wish my ashes to rest near the banks of the Seine, in the midst of the French people whom I have loved so dearly." He was buried at St. Helena, but in 1840 his remains were brought to Paris.
 From a drawing made by an English officer two hours after his death.

opinion. Is Smith or Thompson, or whoever it may be, to sleep in the Abbey?

I reply that "to me it is a matter wholly indifferent, ask the Dean." Then they ask the Dean, worthy man; they ask the Labour members, they ask everybody. As a matter of fact, no sensible person cares a sou.

The lady made similar observations to me. She said that such wranglings are indecent. The thing should be settled while the eminent person is in the fullness of his powers and the bloom of his fame. It should be decided to make him a W.M. or Writer of Merit, the title also conveying the privilege of interment in Westminster Abbey. Then there will be no hurried hubbub when he crosses the bar, everything will be done decently and in order. The hero will have the pleasure of

the play acted for the very purpose of inculcating the desirableness of dethroning monarchs, and seeing how the country would take it. That was well known, and so the play was not allowed to have its run. I cannot suppose that modern plays are "barred" for such reasons.



THE LAST PHASE: NAPOLEON IN HIS GARDEN AT LONGWOOD.

At St. Helena Napoleon occupied himself largely with writing his own memoirs and opinions, and reading and annotating works bearing on his career. The name of the author of this sketch is not given in M. Gonnard's book.

A sketch from life at Longwood, April 1820

ILLUSTRATIONS REPRODUCED FROM "THE EXILE OF ST. HELENA." FROM THE FRENCH OF PHILIPPE GONNARD. BY COURTESY OF THE PUBLISHER, MR. WILLIAM HEINEMANN.

SEE REVIEW ON PAGE 38.

writing himself W.M. in his lifetime; conceive the pleasure of his aunts and of his aged mother!

As I left town this afternoon I read on the posters, "Another Play of Shaw's Barred." What a shame, and what a useless shame! "Girt by friends or foes, a man may speak the thing he will." If he may speak it, shout it, print it, why should he be forbidden to have it acted? Where is the difference? He might announce his ideas from the pulpit—not, perhaps, from all pulpits, but from some. Why should the stage be more



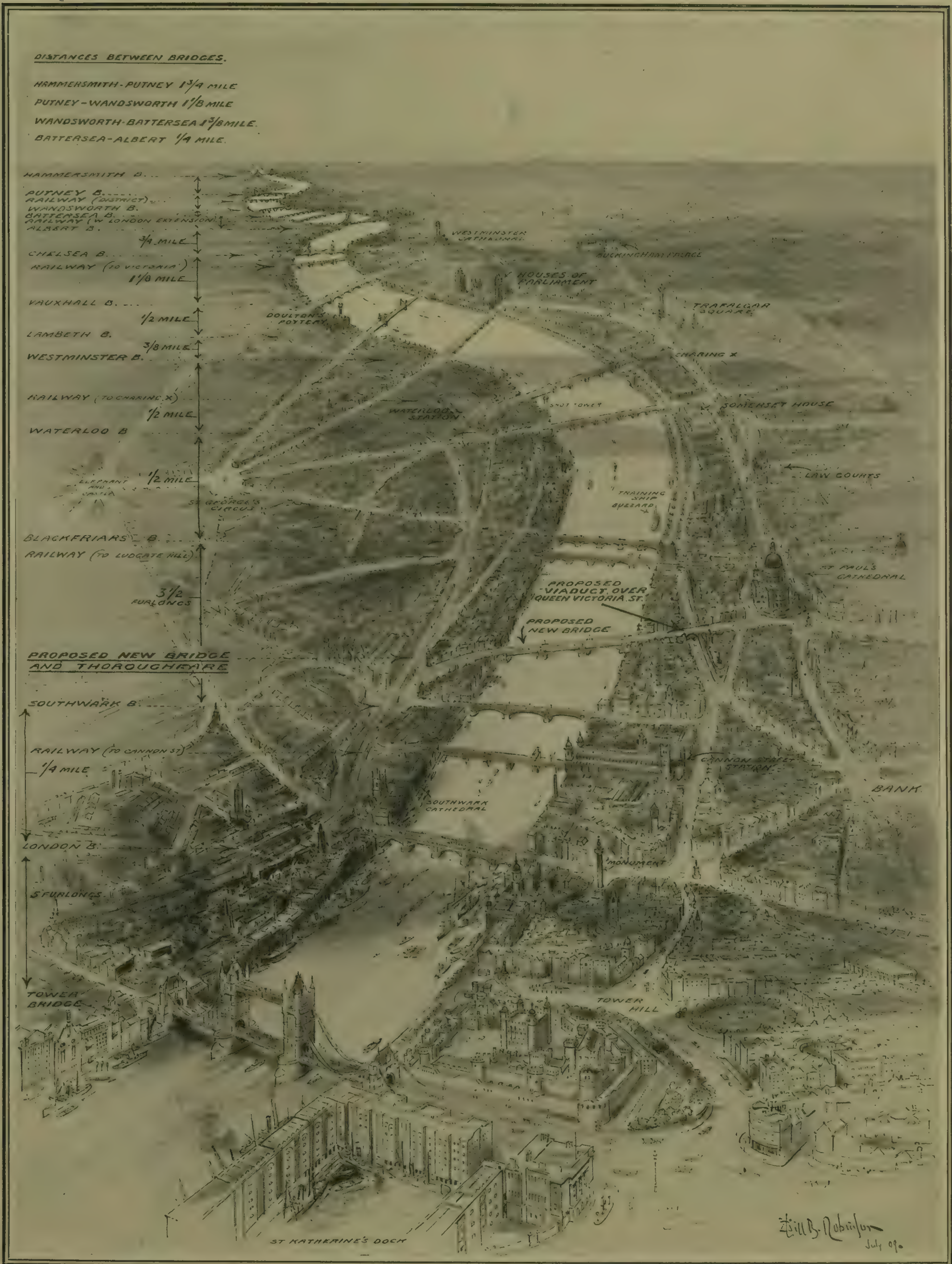
"THE LITTLE CORPORAL" IN EXILE: NAPOLEON AT ST. HELENA.

Before 1819 Napoleon had felt symptoms of the disease which eventually proved fatal to him—cancer of the stomach. Dr. O'Meara, who first attended him, left St. Helena in that year, and was succeeded by a Corsican, Dr. Antommarchi.

From a drawing made in 1820 by Captain Dodgins, of the 66th Regiment.

LONDON'S BRIDGES: ARE THEY TOO FAR APART?

DRAWN BY OUR SPECIAL ARTIST, W. B. ROBINSON.



THE ROADS BY WHICH LONDONERS CROSS THE THAMES; AND THE POSITION OF THE PROPOSED NEW BRIDGE.

As we note elsewhere in this issue, it is suggested that a new bridge shall be built across the Thames between Southwark and Blackfriars Bridges, at a cost of some £1,648,983. The structure would have "an approach commencing at the junction of Southwark Street and Southwark Bridge Road, ascending in a north-westerly direction, the bridge crossing the river in three spans, and the road then being continued by a viaduct over Upper Thames Street and Queen Victoria Street, terminating in Cannon Street." It would be 80 feet wide, and would carry a double line of trams. At Queen Victoria Street the approach would be widened to 103 feet, and the tramway would run underground, rising to the surface in Goswell Road. In our Drawing we give the existing London bridges and the distances that separate them.

A GREAT DAY FOR SOCIETY'S CHILDREN: "ALL THE FUN OF THE FAIR" AT RANELAGH.

DRAWN BY OUR SPECIAL ARTIST, J. SIMONT.



A CHARMING ANNUAL EVENT CHILDREN'S DAY AT RANELAGH.

Children's Day, which was announced for Wednesday of this week, was instituted some few years back, and has become an annual event. It is attended by the children of members of the Ranelagh Club, and free vouchers are given to the youngsters on the application of members. It was arranged that this year the amusements should include donkey-races, a donkey polo-match, daylight fireworks, goat-carriages, donkey-rides, swings, see-saws, a steam roundabout, boats on the lake, coconut-shies, an Aunt-Sally, a Punch and Judy show, a driving competition, and a pony-riding competition—indeed "all the fun of the fair." This picture by M. Simont is of a typical Children's Day at Ranelagh.

FROM THE WORLD'S SCRAP-BOOK.



Photo. Tefuca

THE PROPOSAL TO THROW A NEW BRIDGE ACROSS THE THAMES: THE POINT AT WHICH IT IS SUGGESTED THE STRUCTURE SHOULD SPAN THE RIVER. It is suggested that a new bridge should be thrown across the river between Southwark and Blackfriars Bridges, and that this structure should be eighty feet wide from parapet to parapet. Such a bridge, it is estimated, would cost, with the necessary land, about £1,495,523.



THE LOST PARADISE OF A FALLEN SULTAN: THE PARK AND LAKE OF YILDIZ KIOSK.



A SIGHT ABDUL HAMID MAY SEE NO MORE: THE ARTIFICIAL LAKE OF YILDIZ KIOSK.



GOLF NEAR THE SCENE OF GRAY'S "ELEGY": THE SEVENTH GREEN OF THE NEW STOKES POGES GOLF COURSE.

The work at Stoke Poges was started as recently as last November, but the course is already fit for play. The club will be opened on Monday next, the 12th, when J. H. Taylor, the open champion, J. Braid and Arnaud Massy, ex-champions, and J. Sherlock, the club's professional, will start for the stroke competition. The club house was built by John Penn, a grandson of the William Penn who founded Pennsylvania, in 1790, and he, too, laid out the garden.



BUILT BY A GRANDSON OF THE FOUNDER OF PENNSYLVANIA: THE HOUSE OF THE NEW STOKES POGES GOLF CLUB.



ARRESTED IN THE DOWNS: THE BELGIAN STEAMER, "PRINCE CHARLES DE BELGIQUE."

The "Prince Charles de Belgique" was arrested by Customs House officers, acting on behalf of the Admiralty Court, while passing Dover, on a charge of having collided with the British dredger "Gandia" and the Spanish fishing-boat "Santa Teresa." A close watch for her had been kept by Customs officers and boatmen, and their vigilance was rewarded when they espied her coming up the Channel. She was on her way to London when boarded.



Photo. Tefuca

THE RECENT RAILWAY ACCIDENT AT WEMBLEY: THE WRECKAGE ON THE LINE.

The accident occurred at about six o'clock on the evening of Friday, July 2. As the 5.35 from Broad Street to Watford was entering Wembley and Sudbury Station, the second coach fouled the points at a crossing and was overturned. The engine and the first coach remained upright; the rear coaches dashed into the second coach and wrecked it. One passenger was fatally injured, and others were wounded less seriously.

AT THE SCHOOL THAT HAS LEFT A DEEP MARK ON GREAT BRITAIN, THE EMPIRE, AND THE WORLD: THE KING AT RUGBY.



1, 2, AND 3. THE KING PLANTING HIS OAK; HIS MAJESTY SHOVELLING EARTH ABOUT THE ROOTS OF THE YOUNG TREE, IN THE CLOSE UNDER THE DOCTOR'S WALL.
4. ROYAL INTEREST IN THE OFFICERS' TRAINING CORPS OF RUGBY SCHOOL: HIS MAJESTY INSPECTING THE THREE COMPANIES.
5. IN A GREAT AND SPLENDID SCHOOL: THE KING DECLARING OPEN THE NEW SPEECH-ROOM AT RUGBY.

The King visited Rugby School on Saturday of last week, declared open the new Speech Room, commanded an addition to the boys' "hard-earned holidays," presented prizes, planted a young oak tree in the Close, and inspected the members of the Officers' Training Corps of the school. In the course of his reply to the address read by the head of the school, H. J. B. Clough, a grand-nephew of the poet, the King said: "Rugby is notable not only for its successes in scholarship, not only for its men of letters, but even more for its high ideals of honour and manliness and public spirit, and all those qualities that make our public schools the finest places of education in the world. These ideals and these qualities, strenuously taught by her great leaders, and handed on as a cherished tradition from generation to generation of her sons, have left the mark of Rugby deep, not only throughout the islands, but throughout the Empire, and in every part of the world."

Photographs Nos. 1 and 3 by World's Graphic Press; Nos. 2 and 4 by Montague Dixon; No. 5 by Graphic Photo. Union.

"WITHOUT THE SELF-GOVERNING DOMINIONS THE EMPIRE WOULD FALL TO PIECES."

DRAWN BY OUR SPECIAL ARTIST, A. FORESTIER.

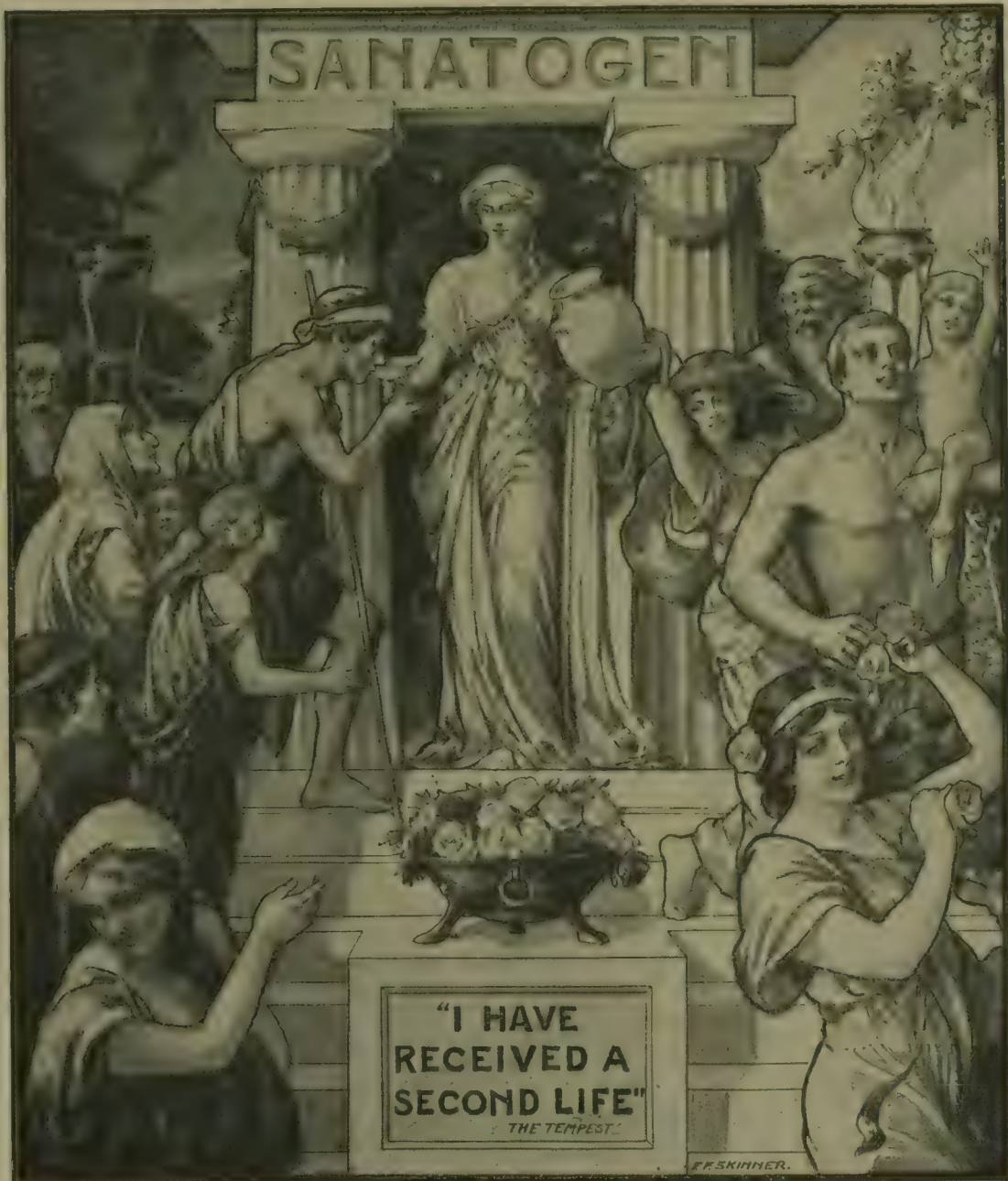
THE ILLUSTRATED LONDON NEWS, JULY 10, 1909.—56



"PRAY, SILENCE!": LORD GREY REPLYING TO THE TOAST OF THE EVENING AT THE DOMINION DAY BANQUET AT THE WHITE CITY.

Dominion Day was duly celebrated in London last week, and a banquet was held at the Garden Club in the White City. In reply to the toast of the evening, "The Dominion of Canada," Lord Grey said, among many other interesting things of note: "Never in the whole history of this Empire has there been a more common or profound conviction that Canada and the other self-governing Dominions and the Motherland are all necessary to one another. It is admitted in every part of the Empire that without the self-governing Dominions the Empire would fall to pieces, and that without the Empire the self-governing Dominions

could not stand. The protection of the British Navy is necessary in order to give Canada security for . . . national development. There are some who fear that . . . the large American immigration . . . may stimulate the desire of some people in Canada to be incorporated into the United States. If there is anyone either in this room or outside who shares that gloomy apprehension allow me, so far as I can, to set his mind completely at rest. . . . Every Canadian knows that it is only a matter of time before Canada becomes the most populous and the most wealthy and, if her people live the right life, the most important portion of the British Empire."



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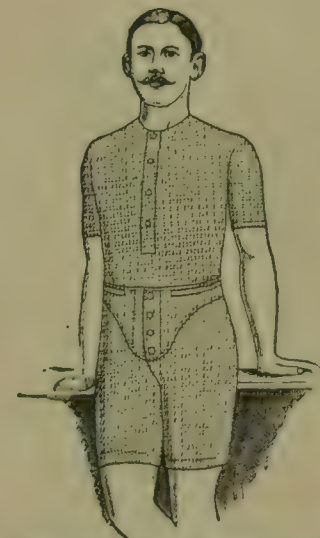
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LARGELY through the enterprise of the London and North Western Railway Company, which has increased and improved its train service to North Wales; that delightful district is being more and more patronised by holiday-makers from all parts of the country. Llandudno, which has been called "the queen of Welsh watering-places," is situated in a beautiful bay, amid grand cliff and mountain scenery, and provides attractions—bathing, boating, excursions, and entertainments—to suit all kinds of tastes. Our photograph shows the westward view, with the



"THE QUEEN OF WELSH WATERING-PLACES": THE PROMENADE AT LLANDUDNO.

Great Orme's Head in the background. Colwyn Bay, situated between Llandulas Head and the Little Orme, has grown rapidly in recent years, and is now a highly popular holiday resort. The Victoria Pier and Pavilion was recently erected at a cost of £50,000, and the esplanade extends for a distance of over two miles. Our illustration shows a typical scene on the beach, where children are playing, mothers looking after their families, and men taking life easily. Conway Castle, whose ivy-grown ruins are one of the most picturesque historical land-marks in North Wales, was built by Edward I. in 1284, at the time when the town received its charter of incorporation.



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NO DENIAL POSSIBLE.

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The greatest truths need constant iteration. The most momentous scientific discoveries have sometimes been treated with derision. Harvey suffered years of contumely ere his discovery of the circulation of the blood found general acceptance; while the difficulties encountered by Dr. Jenner in promulgating his discovery of vaccination were even greater than those of Harvey. Fortunately, we live in more enlightened days, and the discovery of Antipon for the permanent cure of obesity was at once recognised as a notable scientific achievement. This was but a few years back, and now the Antipon treatment is famous the world over. It is acknowledged by all competent authorities as the standard remedy in this important branch of therapeutics. Grateful letters reach the proprietors of Antipon almost daily from men and women residing in all parts of the world, testifying to the wonderful powers of Antipon, both as a permanent reducer of weight to normal and a tonic of the very highest value. These letters are always preserved at the proprietors' offices in proof of *bona fides*. Such an array of testimony is positively conclusive. There is no denial possible.

The great thing about the Antipon treatment is that the cures it effects are absolutely lasting. The best that most of the old-time treatments and their latter-day equivalents are able to do is to starve and drug and sweat the unhappy patient into the limp thinness of ill-health. Certain it is that they never really cure the disease of obesity; for no sooner does the patient begin to take proper nourishment again than the abnormal tendency to grow fat reasserts itself with all its old persistence. To obstinately stick to such wasting methods is to risk ruin to the constitution and life-long misery.

Why is Antipon a permanent cure for the disease of obesity? The answer is simple: It roots out the aforesaid tendency, for good and all. With every pound of superfluous fatty matter eliminated from the body there is a corresponding diminution of the predisposing cause of over-stoutness. Once, then, the weight is reduced to normal, and all the exterior parts of the body to symmetrical proportions, the recurrence of the excessive fat development need no longer be feared, and the doses may be discontinued.

Beauty of contour is not, however, everything. Antipon performs a more vitally profitable work in eliminating for good the dangerous excessive fatty matter that environs and penetrates the tissues of the organs, softening the muscles of the heart, and impeding the natural functions of the liver, kidneys, and lungs. The removal of these masses of fatty matter very soon manifests itself in the improved health and spirits.

There is no more palpitation of the heart or difficult breathing and oppression. The feeble circulation is quickened and the pulse regular.

Renewed health and strength are also derived from the grand tonic qualities of Antipon. The digestive system is revitalised; the appetite is improved; it is a pleasure to take food in sufficing quantities—wholesome food, thoroughly enjoyed and well digested, which goes to enrich the impoverished blood and make new muscular fibre and nerve tissue and to increase brain power and restore stamina. Antipon does not merely take away so much fat: it reconstructs the whole body on lines of beauty and strength. It takes away what is bad and gives back what is good.

How quick is the reduction? That depends on the degree of obesity, and the state of health through bad-treatment or neglect of obesity. But in any case there is a reduction within a day and a night of the first dose—anything between 3oz. and 3lb.; in extreme cases even more. With this good and prompt start, the ensuing daily decrease goes merrily on, until complete and lasting cure.

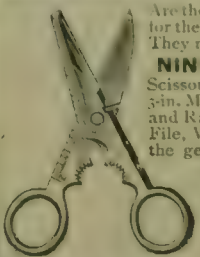
How many stout people have uselessly spent pounds and pounds of money, only to find themselves weak, miserable, flabby, and afraid to eat. Let such as these only buy a 2s. 6d. bottle of Antipon, and give it a genuine week's trial, and they will find that Antipon is something quite different from anything they have ever tried—something that will very soon change their dreary outlook on life.

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LADIES' PAGE.

MORE is done for girls nowadays—not individually, but as a body—than probably ever before in history. Last week I was invited to attend on successive days two functions bringing this pleasing fact to mind. The first was a large garden-party given in honour of the sixtieth anniversary of the foundation of Bedford College, and also of the entrance of that institution for the higher education of women upon the occupation of a lovely garden on which to build new premises. Bedford College was founded in 1849, mainly through the generosity of Mrs. Hugo Reid, whose object was chiefly to provide for the higher education of girls on liberal lines without any sectarian limitations, Queen's College, founded one year earlier, having been started upon Church of England lines. It is a distinction for Bedford College that "George Eliot" was one of the students who entered there in the first session. The name was given it simply from the fact that it started in a house in Bedford Square. In 1874, it removed to Baker Street, and there it was visited by Queen Victoria as a part of the celebrations of her Diamond Jubilee. The lease of this house is about to expire, and the Council have, therefore, purchased South Villa, Regent's Park, and are appealing for donations to enlarge and alter this house for College purposes. About £38,000 has been already raised for the Building Fund, her Majesty, who is the Patroness, sending £100. Lady Tate has generously promised to give £10,000 for the library, and the executors of the late Mr. James Tule have paid a bequest of £12,000; then Mrs. Ludwig Mond has given £1000, and Miss Alice Sargent bequeathed a similar sum; but another £80,000 is still needed to build and equip the college. Judging by the influential gathering at the garden-party the other day, the appeal will not be made in vain. I hope that many of my readers will feel inspired to send the College Building Fund a contribution.

For girls of the poorer class is the other effort to which I alluded above. This is the Passmore Edwards Settlement, Bloomsbury, which provides means of recreation and study for both young men and maidens of the working classes. They have a gymnasium, courses of many kinds of learning, and various forms of amusement. The entertainment to which I was invited was organised by Miss Margaret Hayman to raise money for the settlement Girls' Holiday Fund. The girls who benefit by the Institute are very many of them workers with the needle, some sitting all day—from early morning till late in the evening—monotonously stitching at the beautiful Court gowns and garden-party dresses in which more fortunate girls of their own age are to enjoy their lives. It should not be too much to ask those more lucky girls to send a few shillings to the Settlement from their pocket-money to help the fund that will give the patient and industrious toilers of the needle a brief change during the slack season at their work—the on-coming two months.

A good old English drink, far more healthy as well as agreeable than a cheap and sour foreign wine, is cider. This pure fermented apple-juice, as now manufactured by Messrs. H. P. Bulmer and Co., at Hereford, is deservedly called the white wine of England. A very

interesting booklet, full of historic information and technical reasons for believing that the drinking of cider is conducive to longevity, will be sent by Messrs. Bulmer to any of my readers who apply. A great many doctors believe that Professor Metchnikoff is right in his theory that drinking daily a fluid containing lactic acid will destroy the mischievous bacteria which cause appendicitis and other complaints, and which also tend to bring about premature old age by the poisons that they can form in the system. The artificially soured milk recommended by Metchnikoff may be (according to medical testimony) beneficially substituted by cider, as it contains ethylid-lactic acid. When it is added that the women of the district around Hereford, where cider is the common drink, are famous for their exceptionally beautiful complexions, enough has been said to recommend a trial of Bulmer's Cider, which is sold either in casks or bottles at a very moderate price.

Nothing is more refreshing and exhilarating as a perfume for the mouchoir than the celebrated "4711" Eau-de-Cologne, the well-known green-and-gold label of which meets the eye in every high-class chemist's shop or stores. Few are the ladies who do not know its value also as a toilet-water. A small quantity added to the water in the washing-basin or a somewhat larger quantity in the bath is most beneficial to the skin, stimulating its action and making it feel, as well as look, clean and fresh, and leaving a delicate and agreeable odour upon it. To put "4711" Eau-de-Cologne behind the ears and on the brow, afterwards inhaling some on a handkerchief through the nostrils, will be found an invaluable cure for nervous headaches.

A special stocktaking sale, for a fortnight only, is in progress at Messrs. Waring's, and ends on July 19. Until then an exceptional opportunity offers to buy the Waring goods of nearly every class at reduced prices. Some pieces of second-hand furniture, bedroom suites, pianos, chairs, and the like, are included; while in the furnishing fabrics, the reductions are sweeping, in order to make room for next season's patterns. Chintzes, cretonnes, tapestries, and table-linen vie with carpets and curtains as specimens of good value, and the curtains are both summer and winter ones. Amongst the latter are exceptional bargains. Many are reduced to exactly half the original price, such as a sumptuous pair of embroidered curtains, which were ten guineas and are now five; and some down quilts that are normally priced at forty shillings, but may be picked up in the sale for a sovereign. There are notable bargains, too, in the china and glass departments. A catalogue can be had by post, and Messrs. Waring pay carriage up to fifty miles and arrange on easy terms for sending anywhere.

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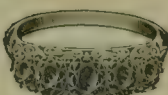
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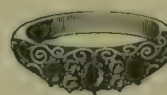
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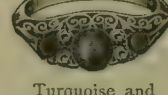
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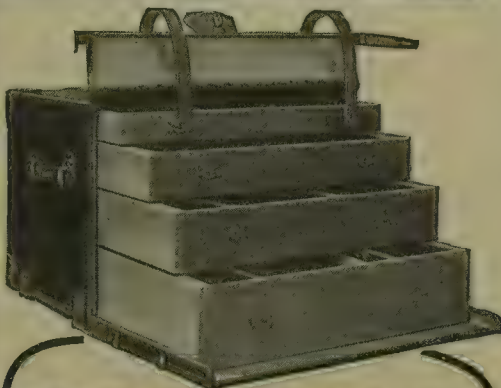
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THE CHRONICLE OF THE CAR.

I FEAR the Brooklands authorities do not feel altogether satisfied with the results of the Wednesday afternoon meeting, notwithstanding the attractions of Nazzarro and his Fiat. But for the Italian's advertised attempt at a record, the attendance would surely have not been nearly so numerous. The chance of seeing man and car travelling at over one hundred and twenty miles per hour, "way up" on the banking like a fly, or of something happening during the effort, was the draw; for the rest of the programme, save perhaps the farcical cab-race, was not of superlative interest. The speed accredited to Nazzarro last year was 121.64 miles per hour for a complete lap on Brooklands, but this time, with a car which he is reported to have said was from ten to fifteen kilometres per hour faster than that of last year, he only touched 105.1 miles per hour. It is curious that no mention was made in the Brooklands programme of Newton's Napier 119.34 miles per hour, which is the record held by a British car.

The attitude of the Royal Automobile Club with regard to the Dust Trials suggests that of the proverbial ostrich. What end the Club fancies is to be gained by making lowly obeisance to a certain section of manufacturers, and holding the trials *in camera*, is far from obvious. It is puerile to presume that the public will be persuaded that motor-cars are not as dusty as they really are if pictures of the cars under test at Brooklands do not appear in the illustrated and technical journals. Rather will those motorphobists who realise this undesirable secrecy loudly proclaim that motorists and the Club are themselves so shocked at the dust they raise that they fear to let the public see pictures of the trials.

In the matter of trials altogether just now, the tail would appear to be wagging the dog, for the Club, which should hold on its way without looking to the right or left, stirs not a hand's span without the with-your-leave and by-your-leave of the society.

One really cannot know enough about one's tyres, for they are the items which, in course of renewal, dip most deeply into the motorist's pocket. Now one of the most interesting and useful little books issued

Some days since a fugitive report, launched I know not whence, appeared in the columns of two of the leading dailies, to the effect that owing to the complicated difficulties of collection the petrol duty would not be persisted in. Believing that such important organs could not be misinformed, I have looked ever since for some official announcement to this effect, but without result. It is well to note, however, that Mr. Joynson-Hicks, M.P., the chairman of the Motor Union, and the only Parliamentary representative of motorists who has put up anything like a public fight, while ready to sink his own opinions for the sake of union, will make no treaty of peace with the petrol tax, which he most properly regards as penal.

A few days since I was afforded an opportunity of making test-runs in Wolseley-Siddeley cars of 14-h.p. and 18-h.p. which belong to private owners, and which, moreover, had been in the possession of these two gentlemen for some months. So my experiences, which were in every way satisfactory, were not the result of trips in cars specially turned up for the occasion. I can imagine no more suitable and satisfactory car for the private owner, the man of moderate

means, than the 14-h.p. Wolseley-Siddeley. She is fast enough for all reasonable people, climbs hills without effort, steers *à merveille*, and is delightfully sprung. The bodies were hardly so comfortable as they might have been, seats too high and too narrow, and lacking that great essential of comfort, backward slope; but mechanically there was nothing to be desired. The 18-h.p. Wolseley-Siddeley was, without doubt, the easiest steering-car I have ever handled.



D FOR DUNLOP: THE "D COMPANY" OF THE 8th BATTALION ROYAL WARWICKSHIRE REGIMENT.

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of late is the Michelin Instruction-Book. It actually bristles with useful and most practical hints on the care of tyres. The manner in which to employ the various ingenious Michelin levers is clearly shown by diagrams and lucidly explained. Many and painful were the struggles which, in the past, the writer has waged and sustained with tyres of abnormal obstinacy, but by the Michelin Instruction-Book the always-dreaded job of fitting an entirely new cover to a rim is so well indicated that it should be easy.

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June 22nd, 1908



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SCIENCE JOTTINGS.

THE DARWIN CELEBRATIONS.

THE recent celebrations held in memory of the great work of Charles Darwin as the exponent of evolution in its modern sense naturally attracted a large amount of attention, not only in the world of science itself, but also among that section of the public which takes an interest in scientific advance. Very worthy is Darwin's name of being kept green in the minds and hearts of scientific workers. It is late in the day to compare Darwin with Newton, but the comparison is just enough. When Newton formulated his theory which enabled men to conceive how the planets were maintained in their orbits, and how, on the same principle, an apple falls to the ground, he placed in the hands of science a guiding clue to the explanation of the universe in motion. Laplace had also shown how that universe may have been evolved, and figured forth the evolution of a planet from its nebulous stage onwards to its moribund epoch and its death. Darwin, in his own sphere, applied a similar conception to the world of life. He formulated evolution as the guiding and controlling principle of life's development, and he did more, for he laid down the method according to which, in his view, evolution operated to produce the variety of form and circumstance which—vitality—everywhere exhibits.

Despite the generally diffused knowledge of what Darwin accomplished, there are yet many persons who fail to comprehend the exact standpoint which the great naturalist assumed in his theory of evolution. That theory, soon after its formation, became known—through Darwin's own expression indeed—as that of "natural selection." He conceived that in the universal "struggle for existence"—this last a phrase of Spencer's—there arose a process of selection of the fittest members of a species by way of carrying on the race. On the view that the weak go to the wall while the strong survive, it became needful to define which units represented the strong side of a species. Darwin's idea was that those animals and plants which varied from their neighbours, other things being equal, were to be regarded as the surviving units in the struggle. Of course the variations in question were to be regarded

as favourable ones. There are such things as unfavourable departures from the type; but, given departures from the type of a species, and assuming that these variations tend to give an advantage to their possessors—legitimate enough suggestions—then we can see how the beginnings of new species could be initiated.

Nature, according to Darwin, "selected" the varying units for propagation over the run-and-ruck of the species which remained on the dead-level, so to speak. Variations, becoming established, gave origin to new races, and races, varying in turn, became new species. This outline indicates the main tenour of Darwin's views. A similar thought had struck Alfred Russel Wallace working in the Malay Archipelago, and,

chief factor concerned in evolving new species has been hotly debated, and equally has the question how far the environment of a living being affects its likelihood of variation been discussed. The influence of altered habits in bringing about changes in animal structure is another moot point in biology, and still more is that which inquires whether, when a living being acquires or exhibits a new character on its own account, such character is capable of being handed down to its offspring.

All these discussions were naturally to be expected to arise from the consideration of a topic involving every phase of biological thought. Literary controversies may be interminable even where the details are comprised within a comparatively limited field; and still more extensive, therefore, must be the criticism and discussion that concern the manner in which all life has come to its fulfilment as we witness that event to-day. That which Darwin did for biology was to formulate a working hypothesis such as could be used to explain many of the most difficult problems awaiting the attack of biological science. In the eyes of many able naturalists, the theory of natural selection occupies to-day, with or without modification, that high place of merit. Long before Darwin's days, men had glimpses of evolution as a theory of the development of life. Aristotle suggests it, just as Harvey indicates it, and as Lamarck, Erasmus Darwin, Robert Chambers, and others formulated it, each viewing it from his own special standpoint.

That which is made clear to us all is that, whether Darwin be right or wrong, whether or not Spencer is the true prophet, whether or not Lamarck hit upon a true view of evolution, and whether Weismann is correct or not, nothing can alter the truth that evolution is the great way of life's development. Huxley laid stress on this fact in a criticism of the late Marquess of Salisbury's address to the British Association. This view or that of the factors to which evolution is due may vary. Biologists may accord to this or to that process a great or a feeble influence; but amid all the controversies, necessary and to be accepted as just criticism, evolution remains before us as solid a phase of nature as is the law of gravitation itself.

ANDREW WILSON.



A BATTLE-SHIP DOCKED ON THE WATER: H.M.S. "SANS PAREIL" ON A FLOATING-DOCK IN THE TYNE.

This remarkable picture shows the largest floating-dock in existence, which has a lifting capacity of 17,000 tons, being tested recently in the Tyne. Docked in it is the battle-ship "Sans Pareil," which it has lifted bodily out of the water. The dock was built to the order of the Admiralty for service at Bermuda, and has to be towed nearly 4000 miles to its destination.

as a matter of fact, the two papers, that of Darwin and that of Wallace, were read on the same day before the Linnæan Society. Two great minds in biology seemed to have imitated the simultaneous discovery by two astronomers of a new planet. It may be said that since 1858, when the papers were read, very many criticisms and modifications of Darwin's views have been forthcoming. This was but natural, for the subject of evolution is unending in respect of the suggestions which Nature offers to biologists in the way of indicating how variation proceeds, how it originates, and by what conditions it is modified and controlled. Whether natural selection is the only or

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THE WHITE CITY ON THE SEASHORE: DANISH NATIONAL EXHIBITION AT AARHUS.

(See Illustrations.)

AARHUS, the second largest city in Denmark (after Copenhagen), is this summer the scene of a Danish National Exhibition, which is popularly known in that country as "The White City by the Sea." From its central position in Jutland, at the head of Aarhus Bay, the town is particularly well situated for the purpose, since it is so easily accessible from all parts of Denmark. Aarhus is a very ancient town, but it is only during the last twenty or thirty years that it has attained its present size and commercial importance. Its progress has been mainly due to the development of its magnificent harbour, whose natural advantages have been improved by the building of new docks and quays. The annual shipping of the port has increased during the last half-century from about 1600 ships of 110,000 tons register, to about 2800 ships of 640,000 total tonnage. The fine scenery surrounding the town, and especially the splendid views down the harbour, make it an ideal spot for an Exhibition.

As will be seen from our Illustrations, the buildings of the Exhibition are not unlike those of our own White City, while its attractions are enhanced by the beauty of its situation. The last time a great Exhibition was held in Denmark was that at Copenhagen in 1888 and much enthusiasm has consequently been aroused by the present undertaking.

The principal building is the Industrial Hall, which covers about three acres of land and contains exhibits of various national industries. Joined to it are the Transport and Electrical Halls, and they, in turn, are connected by a covered walk with the Machine Hall, so that in wet weather visitors are able to see the greater part of the Exhibition under shelter. Among the principal industries represented are those of pottery, iron-manufactures, cement-factories, motors, boat-building, brewing, electrical works, and, last but not least, Danish agriculture and dairy produce. An interesting feature of the Exhibition is also the Model Station Town. Running from the main restaurant, which will accommodate 6000 people, is a grand promenade 700 to 800 yards long, which is expected to be the scene of some aeronautic trials. On July 4 a great Danish-American Congress was held at the "White City by the Sea."

From the summer time-tables just issued by the Great Northern Railway Company it will be found that considerable improvements have been made in the service of trains to the North. The timings of certain trains from King's Cross to the large commercial centres of Yorkshire—Bradford, Leeds, Dewsbury, Halifax, etc.—have been accelerated, and additions have also been made to the trains that serve watering-places on the North-East Coast.

CHESS.

To CORRESPONDENTS.—Communications for this department should be addressed to the Chess Editor, Milford Lane, Strand, W.C.

G W MOIR (East Sheen).—We are sorry so simple a matter is so difficult to clear up. Here is the continuation: 1. Q to Kt 7th, K to K 4th; 2. R to B 5th (ch), K takes P; 3. Q to Kt sq. Mate. In No. 3395, what prevents B at Q 4th moving to Q Kt 6th? and in No. 3391 Black cannot move a Pawn to K 5th.

E J WINTER-WOOD.—Thanks for letter. Many found your problem a worthy test of their solving-powers.

CORRECT SOLUTIONS OF PROBLEM No. 3392 received from C A M (Penang) and F J (Trinidad); of No. 3393 from A Singha (Calcutta); of No. 3395 from Henry A Sells (Denver), F Grant (New York), and C Field junior (Athol, Mass.); of No. 3396 from C Barretto (Madrid), Captain J A Challice (Great Yarmouth), J B Camara (Madeira), and G L Rutter; of No. 3397 from G L Rutter, A W Hamilton Gell (Exeter), Ernst Maurer (Berlin), John Isaacson (Harrogate), Captain J A Challice, and J Green.

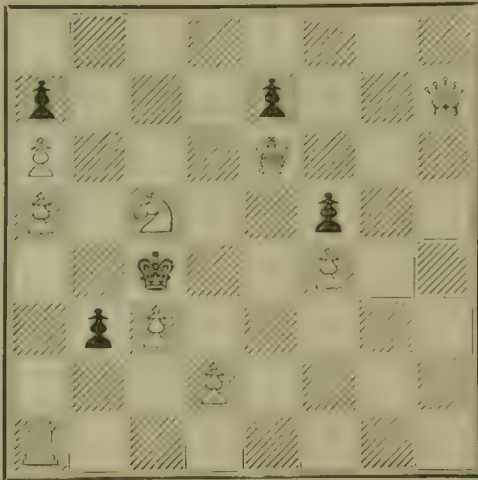
CORRECT SOLUTIONS OF PROBLEM No. 3398 received from E J Winter-Wood (Paignton), A G Beadell (Winchelsea), J D Tucker (Ilkley), F R (Paris), G Bakker (Rotterdam), A W Hamilton Gell (Exeter), F Turner (Brixton), Theodore Robert (Blackpool), J Coad (Vauxhall), R C Widdecombe (Saltash), John Isaacson, Major Buckley, G Stillingfleet Johnson (Cobham), Joseph Willcock (Shrewsbury), R Worters (Canterbury), J A S Hanbury (Birmingham), J F G Pietersen (Kingswinford), Albert Wolff (Putney), and G L Rutter.

SOLUTION OF PROBLEM No. 3397.—By E. J. WINTER-WOOD.

WHITE. 1. Kt to R 4th. 2. Q to K 3rd (ch). 3. Q or Kt mates. BLACK. P to Kt 6th. K moves. If Black play 1. K to K 6th, 2. Kt to Kt 2nd; if 1. K to K 4th, 2. Q to B 5th (ch); and if 1. Other, then 2. Q to Q 3rd (ch), etc.

PROBLEM No. 3400.—By H. MAXWELL PRIDPAUX.

BLACK.



WHITE.

White to play and mate in three moves.

CHESS IN THE CITY.

Game played in the Championship Tournament of the City of London Chess Club, between Messrs. W. E. ALLEN and R. P. MICHELL.

(Ray Lopez.)

WHITE (Mr. A.)	BLACK (Mr. M.)	WHITE (Mr. A.)	BLACK (Mr. M.)
1. P to K 4th	P to K 4th	13. P to K B 4th	B to K 3rd
2. Kt to K B 3rd	Kt to Q B 3rd	14. R to B 3rd	Q R to Q sq
3. B to Kt 5th	P to Q R 3rd	15. B to K 3rd	K R to K sq
4. B to R 4th	Kt to B 3rd	16. R to R 3rd	B to B 2nd
5. Castles	B to B 4th	17. P to R 3rd	Q to K 3rd
6. P to B 3rd	B to R 2nd	18. R to K sq	R to Q 4th
		19. B to B 2nd	Q to B 3rd
		20. R to K 3rd	

Black never recovers from the effects of this ill-starred move, which, as far as the play is concerned, both loses his Bishop and breaks up his centre.

7. P to Q 4th. 8. Q to K 2nd. 9. B takes Kt. 10. Kt takes P.

White's Knight now occupies a commanding position, from which it cannot be dislodged without loss. The only piece to do it on level terms is hopelessly stranded on R 2nd.

11. Kt to Q 2nd. 12. B takes Kt. Castles. Kt takes Kt. Q to B 3rd.

Bringing matters to a speedy conclusion, Black's badly distributed pieces can offer no resistance to the powerful combination opposed to them.

21. Kt takes B. 22. R to K 7th. 23. R takes B P. 24. R takes Kt P. 25. Q to K 6th (ch). 26. R takes Q. 27. R takes P. 28. R takes P. R to K B sq. Q takes Kt. B to Kt 3rd. B to Kt sq. B takes P. Q takes Q. B to Kt 4th. R to K sq. Resigns.

France is about to deliver to Russia her first aerial cruiser, the "Russie," constructed in the Lebaudy shops at Moisson, near Paris, on practically the same lines as the successful "République" for the French Army. Trial trips have taken place recently around Paris in the presence of a group of Russian officers sent to inspect the air-ship. The over-all length of the "Russie" is 170 ft., and her cubic capacity 12,000 ft. Her envelope is constructed with Continental balloon-fabric, manufactured by the Continental Tyre Company. Her power plant consists of one four-cylinder Panhard-Levassor engine of 80-h.p., driving two pairs of propellers, and capable of giving a speed of forty miles an hour in still air.

It is never too late to mend an injustice, especially if it be one done to a British inventor, and this is our reason for reverting to such ancient history as our issue of August 3, 1907. On that date we gave an illustration of a method of instruction in swimming without water, an element which, by the way, might have been thought as essential to the art as ground for walking, or air for flying. On information given to us at the time we attributed the invention to Germany. Our attention has since been called, however, to a book entitled "The Swimming Instructor," published in 1883 by Mr. William Wilson, of Glasgow, who therein described the same method, of which he claims to be the original and sole inventor. As the matter is of importance to him, and the art of swimming is of importance to everybody, we are glad to make his claims known to our readers. It is possible, of course, that a similar idea may have occurred independently to a German, just as Darwin and Wallace arrived separately at the doctrine of evolution, or Adams and Leverrier simultaneously discovered the planet Neptune. But, in any case, credit is always due to an inventor who can claim priority. Those who follow can but say, *Percant qui ante nos nostra invenerunt*.

SKIN TROUBLES AND HOW TO CURE THEM

The Story of "Antexema" the standard British Skin Remedy
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ARE you a skin sufferer or are you troubled with a bad skin? Are you annoyed by pimples or black-heads on your face or a rash or breaking-out in any part of your body? Do you suffer from eczema in either its dry, moist, or scaly form? Have you red, angry-looking spots on your face that look unpleasant and make you feel uncomfortable? Have you a bad leg that refuses to heal or get better, or are you tormented by burning pain or intolerable skin irritation? If so, please remember that you need not suffer another hour, for "Antexema" will assuredly cure you.

The most wonderful thing about the "Antexema" treatment is the immediate relief it gives. The moment "Antexema" touches the seat of the trouble, the worst irritation stops, and your cure begins. Those who have been unable to get a proper night's rest for months, owing to skin irritation, gain a pleasant night's repose after using "Antexema" once. This is attested by the grateful letters of thousands who have written in enthusiastic praise of "Antexema" from every part of the globe.

"Antexema" gives Immediate Relief.

You may have suffered for twenty or even thirty years, and tried innumerable so-called remedies, or you may have consulted doctors and skin specialists without gaining the slightest relief. That has been the case with many who have written and stated that they had abandoned all hope of cure. The moment, however, they began using "Antexema" they realised that they had found the one successful remedy. Now they are cured—thoroughly cured—and their skin is now clear and beautiful and free from every sign that it has been unhealthy.

"Antexema" is the discovery of a well-known doctor, who first used it in his own private practice, and finding how wonderfully successful it was, he decided to offer this marvellous remedy to the world. This was done, and the public were quick to recognise the unique virtues of "Antexema." It is not a greasy ointment which clogs up the pores and soils the clothing, but a creamy liquid which is absorbed by the skin. "Antexema" forms a dry

invisible artificial skin over the affected part, which absolutely prevents the entrance of microbes of blood-poisoning, lockjaw, and other disease-germs which would otherwise get in and work mischief. Underneath this airtight, invisible skin the curative virtues of "Antexema" have free play, and clear, healthy skin soon replaces that which has been destroyed by skin illness.

Delay is Always Dangerous.

Procrastination is always bad, but especially so in skin ailments. The following is a short list of some of the more prevalent skin ailments, and the question to be asked is this: Is your trouble here? Are you troubled with:—



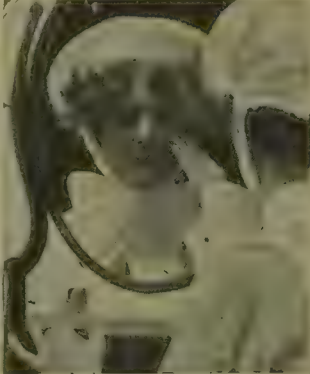
"Antexema" is used by nurses everywhere for the cure of all skin troubles.

Acne, a Bad Complexion, Barber's Rash, Boils, Blotches, Blackheads, a Skin Trouble affecting your Ears, Eyes, Hands, Feet, or Scalp, Eczema (chronic or acute), Eczema of the Legs, any Facial Blemish, Gouty or Rheumatic Eczema, Leg Wounds, Lip or Chin Troubles, Nettle-rash, Psoriasis, Pimples, Ringworm, Shingles, or Ulcers? If so, the one safe thing to do is to apply "Antexema" immediately, as only in that way can you be certain of a thorough and permanent cure. Never delay treatment in skin illness, for you thus run

risks of some more serious trouble. There is at times a tendency to imagine that a complaint will go away of its own accord. It is doubtful if this is true of any disease, but it certainly is not true as regards skin illness. Skin illness will not cure itself. The slight trouble of to-day gets worse by to-morrow, and that is why it is so dangerous to neglect skin illness. Neglect gives the affection the opportunity to tighten its hold upon you; the trouble therefore gets worse, and becomes chronic, whereas all unpleasantness might have been avoided by the immediate use of "Antexema." However slight the trouble, apply "Antexema" at once, and you will find it carry your skin complaint away like magic, and your skin will soon be free from blemish.

There is but one way of proving the value of "Antexema," and that is by putting its merits to a practical test. You have but to use "Antexema" once to be

convinced of its virtues. After that you will need no further persuasion, because "Antexema" will speak for itself. As your skin becomes healthier and as the irritation disappears, giving place to feelings of comfort, you will recognise that "Antexema" is one of the greatest medical triumphs. One of many letters recently received referring to "Antexema" may be quoted. G.B. (Prestatyn) writes: "I feel in duty bound to let you know what a marvellous cure your 'Antexema' has made. My hand was exceedingly bad and the irritation was almost unbearable. It began as a small spot, not as big as a stamp, under the knuckle of my first finger on the back of my hand. I went to a chemist and he gave me some ointment, but it got rapidly worse. I went to a doctor, a very clever man; he gave me some ointment and said it was eczema, and that I was not to wash it and it would soon be better, but it only grew worse and spread all up my thumb, round my wrist, and half way up my arm to the elbow. When I got 'Antexema' I first rubbed off the ointment and then gave one dressing with 'Antexema' before breakfast. In an hour's time my hand was easier. Another dressing at mid-day; about three o'clock it felt quite comfortable, and when I looked at it I was simply amazed, as the rash had nearly disappeared and the purplish redness had given place to a more healthy colour. The irritation entirely subsided, by next morning it was nearly well, and to-day it is perfectly cured. I think the cure is amazing and I cannot thank you enough."



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behind it. There is no skin affection, either of babies, young children, or adults that is not surely, safely, and rapidly cured by "Antexema." It does not matter whether the skin of the face, neck, scalp, arms, hands, chest, or back is affected, as whatever the part "Antexema" is equally efficacious.

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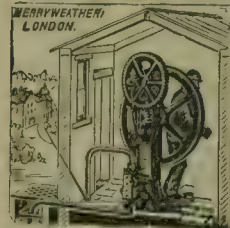
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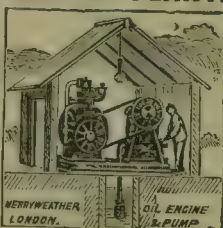
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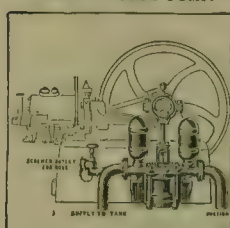
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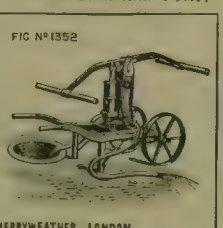
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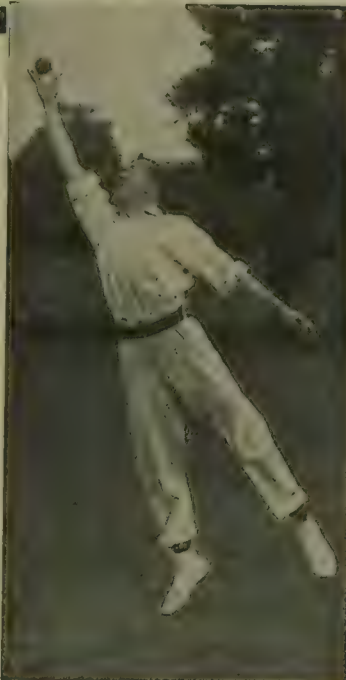
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WILLS AND BEQUESTS.

THE will (dated Aug. 29, 1902), with a codicil of July 15, 1905, of MR. GEORGE MEREDITH, O.M., the famous novelist, of Flint Cottage, Boxhill, who died on May 18, has been proved by Viscount Morley, William Maxse Meredith, the son, and John Croft Devereil, the amount of the property being £32,359. Mr. Meredith gives £1000 each, and the furniture and domestic effects to his son and daughter; twenty-five guineas each to the executors; £250 to Nurse Adelaide Nicholls; and legacies to servants. One half of the residue he leaves in trust for his son and his wife and family, and the other half in trust for his daughter Mrs. Marie Eveleen Sturgis and her children.

The will of MR. JOSEPH CLEGG, of Stoneleigh, Crompton, Lanes, whose death took place on April 14, is now proved, the value of the estate amounting to £300,123. To his son, Joseph Eric he gives his residence and contents and the lands and premises at; Scowcroft and Cowlishaw; to each executor £100; and to his children the residue of what he may leave, the share of his son to be double that of his daughters.

The will (dated Jan. 18, 1909) of MR. EDWARD PERCY JOHNSON, of Holbeche, Kingswinford, and of Dudley, solicitor and coroner, who died on April 20, has been proved, and the value of the estate sworn at £93,660. He gives £500 and during widowhood the income from £60,000 to his wife; £250 to his clerk William Henry Woodall; £100 each to

executors; legacies to servants; and the residue in trust for his two daughters, Vera Williman and Barbara Joan.

The will and codicils of MR. EDWARD THOMAS HABIN, of Chichester, who died on April 9, have been proved by William Bennett Barton Freeland, Thomas Cecil Hogben, and George Sidney Pitts, the value of the estate being £111,929. The testator gives legacies to his three sons, the value thereof to be brought into hotchpot on the division of the property; £1500 to his brother John; £200 each to the executors; and legacies to servants. All other his estate and effects he leaves equally to his children, Edward Charles, Percy, Richard, Edith Maude Mary, and Hilda Josephine.

The will, with three codicils, of SIR JOHN FLOYD, BART., of 44, Royal York Crescent, Clifton, Bristol, whose death took place on May 12, has been proved by Captain Sir Henry Robert Peel Floyd and Walter Combermere Lee Floyd, the value of the property being £51,548. Sir John gives £500 to his sister Florence Kennet Dawson; the income from £3000 stock to the widow of his brother William; £5000, in trust, for his sister-in-law, Edith Ellen Floyd; £200 to his nephew, Sir Henry R. P. Floyd; £5000, in trust, for his brother Walter and his family; £50 a year to his brother Charles, and £100 a year to his wife; an annuity of £100 to his nieces Julia and Gertrude; £100 to William Henry Oliver; and two-thirds of the residue in trust for his brother Walter and family, and one third in trust for his sister-in-law, Edith Ellen Floyd.

The following important wills have now been proved—
Mr. Frederick Alexander English, Addington Park, Surrey . . . £122,530
Dr. Charles Bell Taylor, Beechwood Hall, Mapperly . . . £116,163
Mr. Charles William Mackillop, 14, Royal Crescent, Bath . . . £109,354

Tours to Morocco are popular at all times of the year, owing to the equable climate of its seaboard. The Royal Mail Steam Packet Company has just published an excellent booklet (free on application at 18, Moorgate Street, London, E.C.) dealing with Morocco, and containing some interesting notes on Gibraltar, the Canary Islands, and Madeira. It will appeal to the man who stays at home as well as the holiday-maker, for it contains many historical and other notes, which will help towards an understanding of the political situation. The contents include also a description of the comfortable steamers of the R.M.S.P. which serve the route, and an impressionist sketch of the voyage, together with plans of the towns and several maps.

ECCLESIASTICAL NOTES.

THE 800th anniversary of Southwell Minster was celebrated last week, and a special sermon was preached by the Archbishop of York. Among those who attended the festival service were Bishop Hamilton-Baynes and the Bishop of Derby, the Bishops of Lichfield and Lincoln, the Bishop and Rector of Southwell. The musical part of the worship was arranged with special care. The Minster choir was augmented by boys from Lincoln Cathedral and St. Peter's, Mansfield, and by many lay-clerks from various cathedrals.

Canon Rawnsley, Vicar of Crosthwaite, has been



THROUGH THE IVORY GATE: PRIZE-WINNERS IN THE ODOL BEAUTY SHOW.

According to the old Greek mythology, dreams that delude come to the sleeper through the Ivory Gate, and those which come true through the Gate of HERN. There is no delusion, however, about the beneficial and beautifying effect of Odol when it passes through the ivory gate of beauty. Good teeth are not only of the utmost importance to a woman in the matter of looks (how many beautiful faces are spoiled by bad teeth!), but they are the essential basis of health both for women and men. Odol is known all over the world, even in Tibet, as an article that tends to promote both beauty and health. The portraits here reproduced are those of the first three prize-winners in the beauty competition recently held by the Odol Company. The prizes were £50, £20, and £10 respectively.

appointed by the Bishop of Carlisle to the canonry held by the late Bishop of Barrow-in-Furness. Canon Rawnsley was educated under Edward Thring at Uppingham, and has served in the diocese of Carlisle for thirty-one years. He is Rural Dean, Honorary Canon, and Proctor-in-Convocation. It has been truly said that no man since the days of Southey, Coleridge, and Wordsworth has by his writings done so much to familiarise the English-speaking people with the beauties and charms of the English lakes as Canon Rawnsley.

A cheque for £600 has been presented to the Bishop of Rochester for the purchase of a new motor-car. The Bishop has already worn out a car in the service of the diocese. The presentation was made by Lord Darnley in the name of the subscribers.



THE COMING LINCOLNSHIRE WATERING-PLACE: WOODHALL SPA.

On account of its valuable bromo-iodine natural mineral waters, Woodhall Spa is developing rapidly as a watering-place. About a hundred well-known doctors recently spent a week-end there, staying at the Victoria Hotel and the Royal Hotel, each of which has its baths and curative appliances. The attractions of the Spa include lovely pine-woods, a sporting golf course, and an excellent train service by the Great Northern.

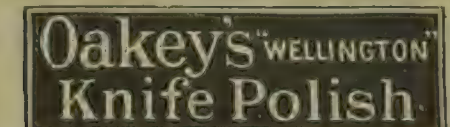
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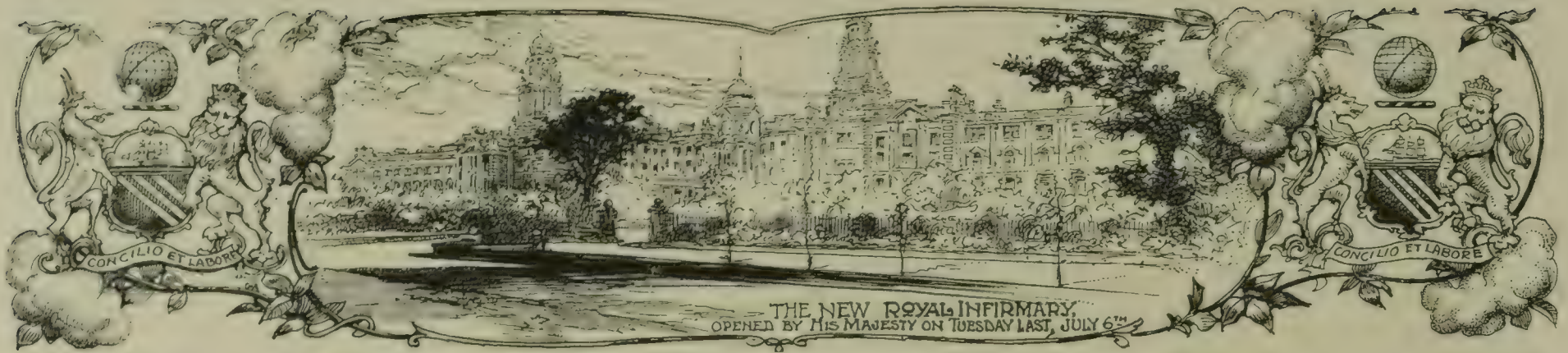
THE WEB OF THE WORLD.

· BEING · AN · ACCOUNT · OF · MANCHESTER · & · ITS · GREAT · INDUSTRIES ·



THE ROYAL VISIT TO MANCHESTER: HIS MAJESTY THE KING, WHO OPENED THE NEW ROYAL INFIRMARY
AT MANCHESTER ON TUESDAY LAST, JULY 6.

His Majesty also inspected the East Lancashire Territorial Forces in Worsley Park.—[FROM THE PHOTOGRAPH BY BARON ADOLPH DE MEYER.]



THE WEB OF THE WORLD.

THE visit of the King to Manchester for the official opening of the Royal Infirmary new buildings, and to present colours to Lancashire battalions of the Territorial Army, has directed attention this week to the city whose place in our national life has been summed up in the phrase "What Manchester thinks to-day, England will think to-morrow." Instances of that come to mind as one recalls with what enterprise Manchester took up the manufacture of cotton, when, early in the eighteenth century, our increasing dominion in India made accessible supplies of that raw material. Given raw cotton, Lancashire invented the spinning-mule, the power-loom, and the needed machinery for its manufacture. Increasing trade called for improved transit, and there followed the Bridgewater Canal; while the Manchester and Liverpool Railway was the pioneer of all others. The same spirit of enterprise has given Manchester its Ship Canal. The massacre of Peterloo, on the ground where the Free Trade Hall now stands, definitely led up to the democratic extension of the franchise. From the nucleus of Owens College has been developed the Victoria University of Manchester, from which has followed the establishment of universities in leading provincial cities. The occasion of the King's visit to Manchester is an instance also of this prescience, for while London and other great centres of population still maintain their hospitals on their original sites in neighbourhoods now almost entirely given up to business, Manchester has led the way in removing its Royal Infirmary from Piccadilly, the very heart of the city, to new buildings on the outskirts, where the surroundings permit hospital work to be carried on under the best possible conditions.

These are but local manifestations of the energy and enterprise which have made Manchester the centre of the world's cotton trade. How apt is the description of Manchester as "The Web of the World" few people realise. In a general sort of way the public recognise Manchester as the capital of the English cotton trade, but the importance of that industry not only to this country but to the whole world is far greater than is imagined. For after food clothing is the chief human necessity, and it is cotton in some form or another which all civilised, and many uncivilised, races require and use. England's—that is to say, Manchester's—position in the cotton trade is at once pre-eminent and peculiar. Pre-eminent because she is by far the largest producer of cotton goods in the world: almost half the spindles in the world belong to England and her dependencies. At the same time the position of the English cotton trade is peculiar, because, in proportion to her output, she is the smallest consumer of raw cotton in the world. Where Lancashire leads is in the variety, fineness, and quality of her manufactures. The unparalleled suitability of her climate and the rare skill of her operatives enable her to spin yarn of a fineness produced nowhere else in the world. She thus produces the maximum amount of fine yarn and woven fabrics in proportion to the machinery employed. In this fact lies the unique importance of the English cotton trade, only twenty per cent. of our manufactures being required for home consumption, while the export of over three quarters constitutes one of the three most important branches of British foreign trade, with its reflex effect on the railways and shipping of the country, and, through these, upon the ship-building,

engineering, and coal trades of the country, in addition to the cotton industry's own call upon the two latter for the building and driving of machinery.

The vastness of the interests involved is not merely national; it is international. The last thirty years have witnessed so stupendous an increase in the demand for cotton fabrics that their manufacture has been established in many countries. While thirty years ago the total growth of American cotton amounted to 5,000,000 bales, the United States to-day alone uses that amount in her own mills. All over the world there have been similar developments in the manufacture of cotton.

From being a local, a Lancashire trade, the cotton industry has become world-wide. Indeed, great as is the capacity of Lancashire, it would have been beyond her power to meet the increasing demand for cotton, but she has maintained her pre-eminence by virtue of the fineness, variety, and low cost of her productions. These rapid developments have brought about delicate problems of balance between production and consumption. The way toward their adjustment by co-operative action between all concerned has been led by Lancashire. In the English Federation of Master Cotton-Spinners (the most powerful national federation of employers in the world) and its President, Mr. C. W.

had the high distinction of being received by King Edward. At the last Congress, held in Milan in May 1909, sixteen out of the twenty-two cotton-using countries of the world were officially represented, and to-day the owners of over 87 per cent. of the spindles of the world co-operate with the International Federation. By their united action they are securing the solution of many vexed problems—as, for instance, the periodical scarcity of the raw material, the extension of cotton-growing areas, the more scientific cultivation of the plant, the international standardisation of grades of cotton, and remedies for dealing with temporary overproduction of cotton, etc.

Langworthy Bros. and Co., Ltd. No account of the staple trade of Manchester would be complete without reference to the well-known firm of Langworthy Bros. and Co., Ltd., cotton-spinners, manufacturers, dyers, bleachers, printers, and finishers. Founded in the early part of the last century, it has grown and extended as the trade of Manchester has developed. In its earliest days its business was chiefly confined to cotton spinning and manufacturing. But, led by the development of their trade, Langworthy Bros. and Co. have added department after department for bleaching, dyeing, printing, and finishing—the dyeing,

in particular, of indigo blues being carried out by this firm on an extensive scale. In the number and variety of the processes carried on at its large works, Greengate Mills, Salford, this firm presents the probably unique spectacle of the transformation within its own premises of the raw material in the shape of cotton in the bale into the finished article—bleached, dyed, and printed cloth.

The Master Quiltings.

Among the finest and most distinctive varieties of textile fabrics are the cloths technically known as "Quiltings," which, however, have nothing to do with bed-quilts, but include such fabrics as piques, diamonds, matings, and materials for gentlemen's light waistcoats. To describe what "Quilting" is would involve many technicalities (not to add that the important processes of its manufacture are zealously guarded trade secrets), but its nature is better illustrated by the statement that among other uses they are made into women's dresses, cord riding-breeches, shirts, waistcoats, and the now fashionable white slips which edge the V-opening of a waistcoat. They represent the finest cotton cloth, and are especially made with the idea of standing severe washing.

Something of the old spirit of romance is still attached to the manufacture of these quiltings, the production of which in their finest qualities involves such delicate workmanship and important processes that the leading, and one of the oldest, firms in the trade (the Bury Quilting Manufacturing Co., Ltd.) maintains the closest secrecy as to its methods, though its goods are known and in demand throughout the world. The manufacture of quiltings, indeed, is supremely one of skill and care, with the result that the fabrics made at the Fern Grove Mills, Bury, and shown at the firm's warehouse, 28-34, Faulkner Street, Manchester, are the finest woven cotton goods in Lancashire or anywhere. Quilting is one of the oldest arts, and it has its centre, or rather home, in Bury, which for many years has been celebrated for the production of this class of goods.

The extreme delicacy of their manufacture may be gathered from the fact that down even to twenty-five years ago they were still largely made on the hand-



OPENED BY THE KING ON THE OCCASION OF HIS VISIT TO MANCHESTER: THE NEW ROYAL INFIRMARY.

It was arranged that the King should open the new Royal Infirmary at Manchester on Tuesday last, July 6, and that his Majesty should be accompanied by the Queen and Princess Victoria. The new Infirmary is a particularly fine building, and particularly well planned. The hospital has some fifty blocks of buildings, connected by three or four miles of corridors; has five staircases and eighteen lifts; and can accommodate nearly six hundred patients. Each surgeon has his own operating theatre.

Macara, the means and the leader were forthcoming. The settlement of the great cotton strike of 1892-3 first showed the power of the Federation, and from that purely local sphere it has extended its vast influence to the organisation of the cotton trade as a whole. One instance must suffice of its practical working. When the English cotton trade was menaced in 1903-4 by the shortage of the supply of raw cotton, a mass meeting of employers and operatives decided to reduce the working of the mills from fifty-five to forty hours per week, and by this reduction of the consumption the corner created by Mr. Sully in New York was overcome.

Out of this striking instance of the value of concerted action by the trade sprang the idea of inviting the other cotton-using countries of the world, who are large consumers of raw cotton, to co-operate with England, the result being the inauguration of the most significant movement of modern times—namely, the establishment of the International Cotton Federation. What Lancashire did yesterday the cotton industry of the world is doing to-day. Under the auspices of the International Federation (which has its headquarters in Manchester, and whose committee is presided over by Mr. C. W. Macara), seven Congresses have been held in as many different countries for the purpose of safeguarding the common interests of the cotton industry of the world. The International Committee has

[Continued overleaf.]

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DRAWN BY S. BEGG, OUR SPECIAL ARTIST IN MANCHESTER.



WATER SPANNED BY WATER: THE BRIDGEWATER CANAL CROSSING THE MANCHESTER SHIP CANAL.

The Manchester Ship Canal, a remarkable feat of engineering, presents, perhaps, no more curious feature than the Barton Aqueduct, which is here illustrated. By means of this the old Bridgewater Canal is carried across the more modern Ship Canal. The aqueduct, which weighs fourteen thousand tons, has a water-tight gate at either end. These gates are closed when it is necessary to make way for a vessel on the canal below, and the aqueduct is swung aside on a pivot, the water on its top being held, as it were, in a tank, two walls of which are formed by the water-tight gates. The Manchester Ship Canal, which gives access for sea-going vessels, was begun in 1887, and was opened on the first day of 1894. It starts at Eastham, on the left bank of the Mersey estuary, some four miles above Birkenhead. It has a breadth of 172 feet at the surface and 120 feet at the bottom, and a depth of 26 feet. That is being increased by two feet,

loom, the work being done, not in mills, but given out to the workers in their own homes. By constant experiment, and after many failures, a quilting-loom was constructed which could be driven by power, though its production was only slightly faster than the hand-loom. During the last twenty years, however, under the able guidance of the Managing-Director, Mr. James Redfern, the Bury Quilting Manufacturing Co., Ltd., has effected many improvements, which have raised its fabrics to a pitch of perfection never before attained. So unique and valuable are these improvements that it is impossible to give here what would have been intensely interesting illustrations of various processes carried out nowhere else in the world but in the Fern Grove Mills.

Vestings (*i.e.*, cloths for fancy and white waistcoats) are the speciality of the firm, and in a wide range of styles they manufacture particularly fine cloths of remarkable weight. Not only of the finest cottons, but also silks, wools, mohair, linen, ramie, and even more yarns enter into the production of these fabrics, which are distinguished by a choiceness and originality of design for which the firm is famous. So extensive is its range of manufactures that in quality, design, colour, weight, etc., it meets the requirements of every individual taste or need, or the local fashion or climatic conditions of any country. Suitings for tropical wear, in a great variety of shades, patterns, and weights, form another important department, while a large trade is done in cloths for suits and dresses for little boys and girls. These fabrics of the Bury Quilting Manufacturing Co., Ltd., are noted everywhere for their hard-wearing quality and the way in which they retain their first handsomeness, despite frequent and repeated washing. A very large variety of materials for ladies' dresses are also manufactured, and are in large demand for their charm in design and durability in wear. Incidentally also, the firm is noted for its trimmings for boys' suits, which are supplied in varieties especially produced to meet every requirement and taste, whether at home or abroad.

To a long and ripe experience, accumulated in the trade from the days of their great-grandfathers and increased year by year, this firm has thus added modern ideas and improvements which make its goods perfect in quality, in variety, originality of design, and, last but not least, in cost of production. The motto "The Master" forms part of the firm's trade-mark, and there is the testimony of successive generations and the whole world that the Bury Quilting Manufacturing Co., Ltd., is indeed master of its trade, a topical illustration of which is the fact that fabric manufactured by this firm passed through many hands to be worn by the King at Ascot.

The Scientist in the Kitchen. If our ultra-civilisation has afflicted the modern man with "nerves" and a bad digestion, it has at least also created a new era in medicine, and from the serious study of food and food-values has evolved the science of dietetics. Until quite recent years the only test applied to food was the rough-and-ready question of like or dislike; but within the last thirty years the scientist himself has invaded the kitchen—or, to speak more exactly, he has studied in the laboratory the respective values of various foods—and in the light of exact knowledge of physiological processes he has succeeded in solving some of the most difficult problems of defective nutrition. Valuable pioneer work in this connection was done at Owens College (now the Victoria University), Manchester, by the late Sir William Roberts, M.D., F.R.S., who embodied in the Lumleian Lectures the result of his original researches into the character and action of digestive ferments. In the working-out of his theories he sought the practical assistance of a

mixed with fresh new milk and heated, predigested itself, so that it was easily assimilated by even the weakest invalid. In other words, what a strong and healthy digestion accomplishes in acting upon food to convert it into nutriment and energy for the body, this special food does for itself through the action of the natural juices which it contains. That is to say, this food digests itself, so that when eaten it immediately nourishes. By shortening or extending the time which this Benger's Food (to use the name under which it is now known and prepared) stands before being eaten, it can be modified exactly to the digestive ability of a child, or an adult, invalid, or dyspeptic.

The more one considers the question of food, the more apparent it becomes that the whole problem resolves itself down to the individual and his particular needs. A strong, healthy man presents one phase of the question, the brain-worker another, the person exhausted by illness or fatigue another, the growing child still another, and so on *ad infinitum*. Each must have enough food of an appropriate character to maintain a proper balance between waste and repair, or physical decline is inevitable. Age, sex, climate, season, occupation, condition of health, and many other factors also further increase or decrease from time to time both the demand for food and the digestive capacity of each individual. Hence the desirability of employing a diet that can be adapted to the needs of the particular case, for, according to the period during which Benger's Food is allowed to remain after being mixed with fresh cow's milk, the digestive principles contained in this Food modify

houses, exporting to all parts of the world, it is of the utmost importance to secure paper which combines the greatest lightness with strength. Take, for instance, a consignment of 18,000 pieces of goods. Allowing only a sheet of paper to each piece of ordinary brown paper



THE FEEDING OF THE INVALID, THE NURSE, AND THE DOCTOR: THE KITCHEN OF THE NEW ROYAL INFIRMARY, MANCHESTER.

is used, the weight of the paper alone will be two tons. Instead of ordinary brown paper "Iron Bark" wrapping paper of equal strength be used, its weight will be only one ton. That is to say, one ton of "Iron Bark" paper contains 17,920 sheets against 8960 sheets of ordinary

brown paper of equal strength. At the Printing, Paper, and Allied Trades Exhibition in Manchester in 1900 the gold medal was awarded to "Iron Bark" wrapping-paper, which is the sole property of Messrs. Ramsbottom, Lyons, and Co., Ltd., of Nicholas Croft, Manchester. This firm is the oldest established paper-house in the city, having been founded about 1830 by Mr. Moses Greenhalgh, after whose death the business was taken over by the present Managing-Director, Mr. Ramsbottom, who had entered the house in 1867 as a junior clerk. Obtaining full control of the business in 1880, Mr. Ramsbottom rapidly extended the firm's connections and developed its trade, which had hitherto been confined to Manchester and district, over the whole world. The consistent quality and unique combination of strength and lightness possessed by this paper have made "Iron Bark" used and known in almost every country, synonymous with all that is best in parcelling-paper. Indeed, the firm has played a pioneer part in the introduction of parcelling or wrapping

paper, which embodies the maximum of durability in the minimum of weight. A moment's thought is sufficient to establish the truth that, to the merchant or shipper, the real value of paper is not its weight but its area, and that it must be judged by its cost per ream, not by its price per cwt., the quality of the paper in each case being regarded as equal. As a matter of fact, experience, as well as scientific tests applied to ascertain stress and strain, prove that "Iron Bark" paper is equal to an ordinary brown paper of 30 to 40 per cent. greater weight.

Ten years ago the business was formed into a limited company under the style of Ramsbottom, Lyons, and Co., the management being retained by Mr. Ramsbottom, who (now ably assisted by his son, Mr. A. K. Ramsbottom) proudly recalls the fact that despite the vast sale of "Iron Bark" paper, no complaint has ever been received as to its quality. Another speciality recently introduced by the firm is a waterproof and proof packing paper for which the trade-mark name of "Wat-ol" has been registered. This is an export packing parchment, and, being absolutely impervious to water and oil, it is completely protective. It is unaffected by heat, and, not being a coated paper, it is non-adhesive, and not injurious to fabrics, so that it promises to replace linen oil, tarred papers, and other costly materials for export-packing to tropical countries, in addition to which its cost is less than that of such parcel-coverings. This "Wat-ol" paper is the sole property of Ramsbottom, Lyons, and Co., who, in addition to their headquarters in Nicholas Croft, High Street, Manchester, have a warehouse in London at 5, Bradford Avenue, Redcross Street, E.C.



BEGIN TO HOPE, ALL YE WHO ENTER HERE: THE EXTERIOR OF THE OUT-PATIENTS' DEPARTMENT OF THE NEW ROYAL INFIRMARY, MANCHESTER.

the latter and change the farinaceous material of the food into soluble substances (in the same way that bread is changed when slowly masticated). The longer the Food is allowed to stand the more thorough the digestion and the sweeter it becomes. Fifteen minutes is found to be long enough in most cases; but this may be shortened to five minutes or lengthened to half an hour, so as to suit the person for whom it is intended.

Directly the Food is mixed with milk it begins its process of self-digestion. If allowed to remain only a short time, it modifies without actually converting the casein of the milk, so that it will no longer curdle in large masses. A more extended treatment brings about more complete digestion, the casein being largely reduced into soluble forms. According to the needs of the case, the Food, at the end of five minutes, a quarter of an hour, or half an hour, is heated to boiling-point, the result of which is to stop the digestive process and to sterilise the prepared food.

The logic of the thing is so plain, and the process is so perfect a reproduction of natural functions, that whenever administered in cases of deficient nutrition or impaired digestion—whether of infancy or old age or of physical exhaustion—Benger's Food has consistently and increasingly proved and established its dietetic value since its invention in 1880. In particular, it has won the warm approval of the medical profession, to whose scientific perception and knowledge it especially

appeals

The Strongest Paper in the World.

In the wrapping up and packing of thousands of pieces of calico, long-cloth, or other goods the weight of the covering paper itself will add so largely to the freight charge, that in the great Manchester ware-



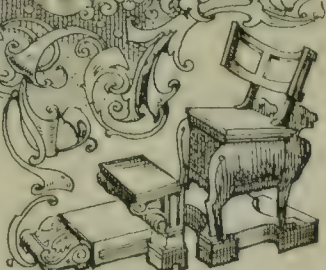
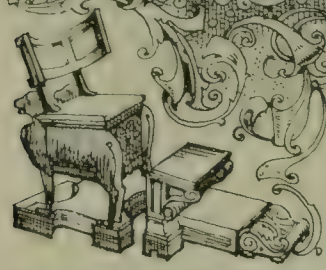
THE CURING OF SOULS AND THE CURING OF BODIES: THE CHAPEL OF THE NEW ROYAL INFIRMARY, MANCHESTER.

distinguished Manchester chemist, the late Mr. F. B. Benger, F.I.C., F.C.S. One result of this collaboration was to utilise the knowledge then gained of the way in which the body's natural juices change and modify food materials into soluble and easily digested nutriment. By adding such digestive ferments to a cooked and carefully prepared flour, a food was obtained which, when



A PROMINENT CITIZEN OF MANCHESTER: MR. RAMSBOTTOM, MANAGING-DIRECTOR OF MESSRS. RAMSBOTTOM, LYONS, AND CO.

A UNIVERSAL PROVIDER: ALL "HARD GOODS" FOR ALL.



ORIGINALLY a strictly manufacturing town—famous for its linen and wool even before it devoted itself to cotton—Manchester, almost within living memory, has so is now the receiving and

kitchen-sinks in stoneware of every conceivable pattern. Or one walks for a hundred yards between rows of baths, and again through avenues of fireplaces.

It is bewildering even to glance down a list of the departments, and still more so to pass, in the course of a few minutes' swift walking, from an array of clocks of every shape and make to a display of carpets and linoleums which would overstock a dozen ordinary furniture shops; to pass from pianos to electric-plating and brass-

not yet dead. The next moment you are watching the manufacture of miners' safety lamps, and Baxendales' latest patent in this connection provides an impregnable safeguard against both

the natural danger of fire-damp and of the collier's own carelessness. This "Baxendales" miners' lamp automatically locks itself and is kept locked by the power of a magnet. It can only be unlocked by being placed over a stronger electric power, so that no misplaced ingenuity or amateur lock-picking on the part of the miner who wants to light his pipe for a surreptitious smoke can ever succeed in opening the lamp. That can only be done by means of the proper apparatus. Mention of lock-picking recalls the department at Baxendales where locks and keys are made, and another shop where fire-proof doors are constructed. One of the most interesting departments is formed by the successive rooms where plate-glass is bevelled, cleaned, and polished, and where it is silvered and turned into mirrors. One may watch also brilliant cutting on glass, embossing on glass, and the engraving of names and designs on window-glass or globes or tumblers, by the sand-blasting machine.

Any one of these departments is of absorbing interest, but they can be no more than named; and so only can be such other features at Baxendales as the making of leaded windows with stained and coloured glass; the making of copper and brass oil-lamps; the cabinet-



WROUGHT BY THE SILVERSMITH: IN THE SILVER SHOW-ROOM.

outgrown its first capacity that it is a distributing centre of many trades. This aspect of Manchester is vividly illustrated by the great wholesale house of Baxendales and Co. It is at once a mercantile and a manufacturing firm in what the Americans call "hard goods"—the phrase is used here simply because there is no English term which covers the whole range of goods manufactured or stocked in the great Baxendales premises in Miller Street, Manchester. It would be easier, indeed, to say what this firm does *not* sell than to enumerate even its different departments. Following that negative line, it may be roughly said that Baxendales do not deal in textiles, fabrics, and eatables. With those broad exceptions the firm manufactures or supplies the retail trades with every other requisite, necessity, or luxury, whether for the private house, industrial undertaking, or municipality. For the first Baxendales supply everything (except the structure itself), from the sanitary fittings and gas or electric lights to furniture, carpets, and coloured or plain glass windows. Industrially and for business houses Baxendales make or supply everything, from miners' lamps for collieries to the windows, signs, and fittings for a shop, and,

lacquering laboratories; to be one moment watching the construction of a merry-go-round, for a country fair, and the next to be standing among benches and work-people

so only can be such other features at Baxendales as the making of leaded windows with stained and coloured glass; the making of copper and brass oil-lamps; the cabinet-



A CORNER OF THE CABINET-WORKS: WOOD-WORKING MACHINERY.



MAKING AIDS TO BEAUTY: MIRROR AND FURNITURE FITTERS AND POLISHERS.

provided the shop is not a grocer's, a chemist's, a draper's, a tailor's, or a bookseller's, Baxendales will also supply its stock-in-trade. Again, Baxendales will supply a municipality with lamps or fire-hydrants for the street, and an order for an ambulance-cart is as quickly executed out of stock as is one for a dozen or a hundred infant-perambulators.

Even a tour of Baxendales' warehouse scarcely conveys an adequate idea of the size and scope of the business. The premises are so vast and the contents of such infinite variety that the visitor is speedily reduced to a state of blurred amazement as he passes from floor to floor and from department to department. From end to end the warehouse extends a quarter of a mile, and there are six floors. Here in the basement is a department devoted entirely to the storage of the rain-water pipes which builders come to buy for the houses which they are erecting. A vast area of floor-space is required merely for the display of

engaged in the manufacture, finishing, and packing of coffin-furniture—handles and fittings and plates being turned out by the thousand ready for the burial of people

making and upholstery; the store of plate-glass, with single sheets measuring up to 18 ft. by 11 ft.; the stores of lead, of ironmongery, of wall-papers and paint, of tents and seats

for the garden, of cycles, and of every requisite for games and sports. Considered either as a warehouse or a series of factories—and it is both—Baxendales defies description by reason of its wonderful variety and comprehensiveness. But we forget! There is something else to be seen at Baxendales, something lighter and fairer. We refer to the show-rooms, and such show-rooms, replete with all that is best and newest in furniture, in glassware, and in silverware, avenues of suites, of mirrors, and of ornaments—rooms worthy to rank with the great "store" show-rooms of the Metropolis. One floor alone contains over half an acre of beautiful things, and if you like beautiful things, then be sure to call and enjoy them when next in Manchester. The firm has branches in Dublin, Edinburgh, and Liverpool.



IN ONE DEPARTMENT OF MANY: PART OF THE FURNITURE SHOW-ROOM.

THE VERY FRAGRANT WEED: SIXTY YEARS OF CIGARETTE SMOKING

SIXTY years have passed since Laurence Oliphant, the notable journalist, traveller, and novelist of that day, stood sponsor for the introduction of the cigarette into England by being the first person of note to smoke the slender paper-covered little rolls of tobacco publicly in London. At that time smoking was regarded as vicious and vulgar. "Do you wish to be taken for an omnibus-conductor?" was Charles Greville's question to

younger men of his acquaintance whom he found smoking in the region of St. James's. But with the introduction of the cigarette, that condemnation of tobacco began to wane, for not only did the cigarette avoid the clumsiness of the pipe and the heavy flavour of the cigar, but it also for the first time offered to English smokers the rare charm and delicacy of Turkish tobacco. For it was from Turkey and the Near East that the cigarette was introduced into England, and to-day, as then, the finest cigarettes in the world are made from Oriental tobacco. A generation before the first cigarette was smoked in England, Basil Muratti established at Constantinople in 1821 the cigarette-manufacturing business which now has its headquarters in Manchester, where Muratti and Sons opened a warehouse and factory in 1885. The first premises were in



FILLING.



ROLLING.

THE CIGARETTE-MAKER.

Bridge Street, subsequently in James Street, while in 1895 the firm erected the large, handsome building in Whitworth Street which has become the centre of an enormous and world-wide trade. Consisting of six

floors and a basement, its large, airy rooms provide ideal and hygienic conditions for the five hundred hands manufacturing hand-made cigarettes of the high quality which is synonymous with the name of Muratti.

Hither comes the tobacco in leaf from the most famous tobacco-growing districts in Turkey, where

are the Muratti depôts for the purchase of the leaf on the spot from the peasants who grow it. In this way the firm is able to secure the finest growths which are brought to Manchester, and made into cigarettes with the scrupulous care and skill demanded by Turkish tobacco of such high quality. The flavour of the finest Dubec or Yenidje is so delicate that it would lose much of its subtle charm and aroma if treated

by machinery. The finest cigarettes always have been, still are, and always will be made by hand.

In addition to the manufacture of cigarettes from Oriental tobacco, Messrs. Muratti are also large makers of Virginia cigarettes. In all, indeed, their varieties of cigarettes number nearly two hundred, among which the delicate "Ariston" and rather fuller-flavoured "Neb-ka" brands are, perhaps, the most famous. Over every detail in the manufacture personal supervision is maintained by Mr. D. B. Muratti, the

Managing-Director of the firm. The quality of their goods is shown by their increasing sale in England, and by an enormous and increasing export to the Continent and British Colonies; while Messrs. Muratti hold contracts for the entire supply of Turkish cigarettes to the Tobacco Régies of France and Italy.

UNTOUCHED BY HAND: A MODEL LARD FACTORY.

If one were called upon to sum up the distinctive advantage which follows the application of scientific methods to any industry, the answer could be best given in the one word—Consistency. Given that result, the quality and purity of the product follow as a matter of course. In nothing is this so evident as in the preparation of foods. Compare, for instance, the rule-of-thumb methods by which the housewife of sixty or seventy years ago prepared even so humble a kitchen necessity as lard, with the precision and care which mark its production in the modern factory of the well-known Manchester firm of N. Kilvert and Sons, Ltd.

From the moment the raw lard is received in the works up to its despatch to customers all over the kingdom, Kilvert's Lard is absolutely untouched by hand, each of the many processes which give to it purity and refinement being carried out by machinery, much of which is this firm's own invention and sole possession. The process begins on the top-most floor of the model factory, recently erected at Trafford Park, outside Manchester, and almost in the heart of the country. Reduced to a liquid condition by heat, the lard flows by gravity into settling-tanks, holding 100 tons, on the floor below. It is then pumped into the refining-room and, after being treated by machines (exclusively possessed by Messrs. Kilvert), it emerges as a clear liquid, perfectly refined and pure. Flowing through cooling-machines,

the lard is reduced to the required temperature, and, reaching the ground floor, it is filled into parchment-lined boxes by girls, whose spotless white overalls and dainty appearance accord well with the purity and cleanness of the finished product. Each box as it is

each case it is never touched by hand. Resuming their journey on the travelling band, the packages are conveyed to the cold-stores—eight in number—to await shipment to the firm's customers. A private railway siding gives direct access to all the railways, while the proximity of the Manchester Ship Canal affords the fullest facilities both for the receipt of the raw material and the consignment of the finished product.

The output of the firm amounts to some 360 tons per week. The purity of its products is the first and supreme care of the firm, which from its establishment in a small Manchester shop seventy years ago has risen to its present leading position in the provision trade of the country. Kilvert's Lard is refined to the utmost degree and untouched by the addition of cotton-seed oil, or other adulterants. Electricity is the motive-power throughout the factory, thus securing a striking freshness of atmosphere, and the absence of dust or dirt; while all the tanks, vessels, and the miles of piping for the treatment and conveyance of the lard, which would be a possible source of contamination were copper or brass used, are of steel and iron. In addition, Messrs. Kilvert also



WHERE MACHINERY IS PARAMOUNT, FILLING AND WEIGHING PACKAGES OF LARD.

From the moment the raw lard is received in the works until it is dispatched to its customers, it is untouched by hand. Thus the greatest possible cleanliness is assured.

filled, is weighed and placed on a travelling band, which carries on the boxes to receive their lids and be nailed down. The lard is also filled into the old-fashioned bladders and stoneware puncheons, but in

prepare tongues, potted meats, and fish packed in glasses and distinguished by the same high quality and absolute purity for which Kilvert's Lard has been noted for nearly three-quarters of a century.

IN THE PUBLIC EYE AT MANCHESTER.



1. EDWARD HOLT, Esq., J.P., Lord Mayor of Manchester.
2. N. JACOBSON, Esq., A Prominent Citizen of Manchester.
3. JOSEPH BELL, Esq., Chairman of the Infirmary Sites Committee.
4. ISIDOR FRANKENBURG, Esq., Ex-Mayor of Salford.
5. FRANCIS ASHWORTH, Esq., J.P., President of the Manchester Chamber of Commerce.
6. T. G. HORRIDGE, Esq., K.C., M.P., Member (Liberal) for East Manchester.
7. J. R. CLYNES, Esq., M.P., Member (Labour) for North-East Manchester.
8. C. E. SCHWANN, Esq., M.P., Member (Liberal) for North Manchester.
9. P. J. RAMSAY, Esq., J.P., Managing-Director of the Manchester and Liverpool District Bank.
10. G. D. KELLEY, Esq., M.P., Member (Labour) for South West Manchester.
11. W. JOYNSON-HICKS, Esq., M.P., Member (Conservative) for North West Manchester.

12. A. A. HAWORTH, Esq., M.P., Member (Liberal) for South Manchester.
13. THE RT. REV. BISHOP J. E. C. WELLDON, D.D., Dean of Manchester.
14. CLARENCE WHITTY, Esq., President of the Manchester Academy of Fine Arts.
15. J. K. BYTHELL, Esq., J.P., Chairman of the Manchester Ship Canal Company.
16. GEORGE MILNER, Esq., Chairman of the Council of the Manchester Art Museum.
17. THE RIGHT REV. L. C. CASARELLI, D.D., Roman Catholic Bishop of Salford.
18. F. W. PEPL, Esq., Treasurer of the Manchester Royal Infirmary.
19. C. W. MACARA, Esq., President of the Federation of Master Cotton-Spinners.
20. SIR WILLIAM COBBETT, Chairman of the Manchester Royal Infirmary Board.
21. E. TOOTAL BROADHURST, Esq., J.P., President of the Manchester Athenæum and ex-High Sheriff of Lancashire.
22. J. L. PATON, Esq., High Master of the Manchester Grammar School.

23. RUSSELL ALLEN, Esq., Deputy-Chairman Manchester Distress Committee.
24. THE RIGHT HON. THE EARL OF DERBY, Deputy Lieutenant and J.P. for Lancashire, and Hon. Colonel 4th Battalion Manchester Regiment.
25. SIR WILLIAM MATHER, J.P., Governor of the Whitworth Institute, etc.
26. THE RIGHT REV. E. A. KNOX, D.D., Bishop of Manchester.
27. SIR WILLIAM H. BAILEY, Head of Messrs. W. H. Bailey and Co., Ex-Mayor of Salford.
28. HIS HONOUR JUDGE PARRY, Judge of Manchester and Salford County Courts.
29. W. G. CARNT, Esq., Superintendent of Manchester Infirmary.
30. ALDERMAN SIR B. T. LEFCH, Chairman of Waterworks Committee, Manchester City Council.
31. ALDERMAN JOHN ROYLE, J.P., Ex-Lord Mayor of Manchester.
32. ALDERMAN SIR W. H. VAUDREY, Ex-Lord Mayor of Manchester.

33. ALDERMAN ROBERT GIBSON, J.P., Chairman of the Gas Committee and Ex-Lord Mayor of Manchester.
34. SIR EDWARD DONNER, Bart., Chairman of the Manchester and Liverpool District Bank.
35. J. H. THEWLIS, Esq., J.P., Chairman of the Watch Committee and Ex-Lord Mayor of Manchester.
36. SIR J. F. LEESH, Bart., K.C., M.P., Recorder of Manchester.
37. JOHN HARROP, Esq., Ex-Lord Mayor of Manchester.
38. CHARLES BERRHENS, Esq., Member of the Manchester City Council.
39. THE REV. S. F. COLLIER, Superintendent of the Manchester and Salford Wesleyan Mission.
40. SIR SWIRE SMITH, the well-known authority on Technical Instruction.
41. SIR T. T. SHANN, J.P., Chairman of the Manchester Education Committee and Ex-Lord Mayor.
42. ALFRED HOPKINSON, Esq., K.C., LL.D., &c. Vice-Chancellor of the University of Manchester.

Photographs Nos. 1, 5, 6, 13, 14, 15, 16, 17, 19, 20, 21, 24, 26, 29, 30, 31, 32, 35, 37, 38, 39, 41 and 42 by Lafayette; Nos. 3 and 23 by Kay; Nos. 8, 11, 12, 22, 28, 33 and 36 by Elliott and Fry; No. 9 by Medrington; Nos. 10 and 25 by Russell; and No. 34 by Brooks.

BANKING FACILITIES.

THE BIGGEST COUNTRY BANK IN ENGLAND.

THE commercial position of Manchester and the extent of its trade can scarcely be shown in a more striking way than by the fact that its distinctively local and leading bank, the Manchester and Liverpool District Banking Company, Ltd., is the largest of country joint-stock banks—that is, of those whose head-office is situated and their business conducted in the provinces. Judged, indeed, by the amount of deposits, the Manchester and Liverpool District ranks tenth among

Tea Dealers," the earliest-known bank in Manchester, and founded as long ago as 1772.

Steadily building up its business and opening branches in leading towns in Lancashire, Cheshire, Staffordshire, Shropshire, Yorkshire, and Derbyshire, by 1875 the Bank had fifty-two offices. In 1904 the number of offices had increased to 102, while subsequent growth and the acquisition of the old-established business of the Lancaster Banking Company in 1907 have given the Manchester and Liverpool District Bank a total number of 183 branches, with a paid-up capital of £1,896,000, and a reserve fund of £1,705,000; while its full resources combined amount to over £27,000,000.

local and cosmopolitan, for not only has the finance of the Lancashire cotton industry to be dealt with, but also the vast business which flows through it from almost every country in the world.

Its direction and control call for expert knowledge and intimate experience, the lack of which the ordinary English banker would betray were he suddenly required to deal with Lancashire trade and its special methods of business. As it is, the Chairman of the Board of Directors is Sir Edward Donner, Bart., the head of



THE MANCHESTER AND LIVERPOOL DISTRICT BANK: THE FRONT COUNTER.



THE MANCHESTER AND LIVERPOOL DISTRICT BANK: THE EXTERIOR.

the joint-stock banks of the entire country. To this position it has risen since its establishment exactly eighty years ago, when, in 1829, it was formed, with a nominal capital of £3,000,000. Its later absorption of the private banking business of Messrs. Loyd, Entwistle, Berry, and Jervis connects the Manchester and Liverpool District in direct succession with the firm of "John Jones and Co., Bankers and

Other English banks which have risen—and several which have not yet risen—to the size and importance of the Manchester and Liverpool District, have found the necessity of making London their headquarters. But the exceptional character of this Bank and the position which it occupies in the trade of the County Palatine require the centralisation of its forces in Manchester. Its business is highly specialised, and at once peculiarly

the old Manchester shipping firm of Chamberlain, Donner and Co., who has as his colleagues men prominent in and profoundly intimate with the business life of Lancashire; while the Managing-Directors are Mr. Peter Jeffrey Ramsay, whose vast financial and business knowledge is the fruit of his many years' banking management; and Mr. Angus A. G. Tulloch, who was appointed in 1908.

NEXT TO THE NECTAR
OF THE GODS.

It was Mr. Gladstone, himself a Lancashire man, who declared that of all beverages invented by man, good ale most nearly approached the nectar of the gods. Lancashire, indeed, has been long famous for its beer, even in the days when almost every household had its own brewing day and made its own ale and small beer. More stringent Excise regulations have made that custom obsolete, but Lancashire is still notable as a brewing centre, an important position in this respect being held by Warrington, where is the old-established firm of Greenall, Whitley, and Co., Ltd.

The large and imposing buildings of this firm stand between the Mersey and the Ship Canal, in pleasant rural surroundings, well outside the industrial area of Warrington. The brewery is fitted with a complete and modern equipment, which reduces actual hand labour to a minimum, while the various processes of mashing, cooling, fermentation, and racking of the beers and ales are carried out with scrupulous care under the direction of experts. In itself brewing is a succession of simple processes, which consist in no more than the infusion of malt with water; the boiling of the resultant mixture; the addition of hops, which impart flavour and taste; and the addition of yeast, which causes fermentation, and, evolving alcohol, makes beer self-preservative. But, simple as are these processes, they require the nicest

IN DAYS OF OLD: THE BEGINNINGS OF THE GREAT GREENALL
AND WHITLEY BREWERY.

care and most scrupulous supervision if regularity of results is to be obtained. A variation of merely two

THE BREWING OF
WILDERSPOOL ALES.

degrees in the temperature of the liquor at various stages in its production is sufficient to ruin a whole brew of some five or six thousand gallons, or, at least, to cause it to vary from the high standard of quality and value which Messrs. Greenall and Whitley long ago established and have ever since maintained.

There are few more imposing sights in any industry than that of great fermenting-vessels containing thousands of gallons of wort (as the infusion of malt with water is technically termed) in which yeast is at work, converting the liquor into the Englishman's national beverage. About this process of fermentation so many absurd ideas exist that it is worthy of statement that it has its almost exact parallel in the making of bread. As the action of yeast converts dough into bread, so the same yeast gives to beer its lightness and digestive property. And here may be noted the scrupulous cleanliness which marks the brewing of beer. Throughout the brewery cleanliness reigns and is the rule. The conditions of dirt and slovenliness which prevail in too many bakeries would not be tolerated for a day in a brewery of the status of Messrs. Greenall and Whitley's, whose reputation is too high and its trade too long established to permit for one moment anything which might tend in the slightest degree to the deterioration of the products for which their name is and has long been accepted as the hall-mark of quality and purity.

THE MAKING OF THE BEVERAGE THAT MOST NEARLY APPROACHES THE NECTAR OF THE GODS:
MESSRS. GREENALL AND WHITLEY'S FAMOUS BREWERY.

THE KING IN MANCHESTER: THE OPENING OF THE ROYAL INFIRMARY: AND MEMBERS OF THE ROYAL HOUSE-PARTY AT KNOWSLEY HALL.



THE KING AND QUEEN WITH THEIR HOSTS DURING THEIR STAY IN LANCASHIRE: THEIR MAJESTIES, LORD AND LADY DERBY, AND THE MEMBERS OF THE ROYAL HOUSE-PARTY AT KNOWSLEY HALL.

During their visit to Lancashire the King and Queen and Princess Victoria were the guests of Lord and Lady Derby at Knowsley Hall, and it was from there that they went to Manchester for the opening of the new Royal Infirmary. In the group (reading from left to right) are, in the front row, Mr. Haldane, the Countess of Gosford, Princess Victoria, Lord Derby, the Queen, the King, Lady Derby, Lady Shuttleworth, Lady Salisbury, Lady Wolverton, Mrs. Arthur Sassoon, and, on the extreme right, Lady Theo Acheson. In the back row are Lord Stanley and, next but one to him, Lord Gosford, the Hon. O. Stanley, and, next but one to him, Sir Arthur Davidson, and, on the extreme right, Miss Moira Cavendish.—[PHOTOGRAPH BY LAFAYETTE, MANCHESTER.]



THE OPENING OF THE NEW MANCHESTER ROYAL INFIRMARY: THE KING AND QUEEN ON THE PLATFORM IN THE OUT-PATIENTS' WAITING HALL.

The King opened the new Manchester Royal Infirmary on Tuesday last (the 6th); and his Majesty is shown in the photograph inside the building, with the Queen and Princess Victoria on his left, and Mr. Haldane, Minister in Attendance, on his right. After the King had declared the building open, and had given permission for one of the wards to be called "King Edward the Seventh Ward," and another "Queen Alexandra Ward," his Majesty knighted Mr. William Cobbett, Chairman of the Board of Management of the Infirmary. Various presentations followed, and the King and Queen, passing between nurses, who saluted by holding the right hand at arm's length above the head, made a tour of the building.—[PHOTOGRAPH BY WARWICK BROOKES, MANCHESTER.]

THE ROYAL REVIEW OF 12,000 TERRITORIALS IN WORSLEY PARK: THE VISIT OF THE KING AND QUEEN TO MANCHESTER.



AT THE ALTAR OF DRUMS: THE BISHOP OF MANCHESTER BLESSING THE COLOURS. ON THE OCCASION OF THE ROYAL REVIEW OF THE EAST LANCASHIRE TERRITORIAL DIVISION IN WORSLEY PARK.



AFTER THE CONSECRATION OF THE COLOURS: THE KING TOUCHING THE STAFFS BEFORE THE COLOURS WERE HANDED OVER TO THE OFFICERS APPOINTED TO RECEIVE THEM.



THE ARRIVAL OF THE KING AND QUEEN FOR THE GREAT REVIEW OF TERRITORIALS: THEIR MAJESTIES DRIVING TO THE ROYAL BOX, ESCORTED BY 1ST LIFE GUARDS.

On the afternoon of the day on which he declared open the new Manchester Royal Infirmary, his Majesty reviewed the East Lancashire Territorial Division, some 12,000 strong, in Worsley Park, which is about six miles west of the city. On the arrival of the King and Queen, in whose carriage were Mr. Haldane and Lord Derby, the Royal Salute was given and the National Anthem was played. His Majesty then inspected the force. This done, an altar of drums was erected, and the Bishop of Manchester consecrated the colours. These colours were then drooped before the King, who touched them: after that they were handed to the officers appointed to receive them. The march past followed.—(PHOTOGRAPHS BY TOPICAL

THE MODERN MECHANICAL HERCULES: HOW WE HARNESS STEAM.

NOT the least impressive feature of a visit to a cotton-mill is the engine-house, where is generated the power which gives life and motion to every machine, spindle, and loom in the factory. Especially impressive is the great fly-wheel, which, through its series of fifty or more revolving ropes, transmits the power of the steam-engine itself to the different parts of the mill. Such a fly-wheel may be twenty-eight feet in diameter, and weighing some sixty tons, revolving fifty-five times a minute under the impetus of the engine's 2000 horse-power. It is this fly-wheel which, to use a colloquialism, "makes the wheels go round" of every machine in the factory.

An interesting corollary, or rather, preliminary, to Lancashire's manufacture of cotton and textiles is Lancashire's manufacture of the engines from which the beating, scutching, roving, slubbing, spinning, and weaving machinery derive their actual motive-power. From the first establishment of the cotton industry Lancashire has been the builder as well as the inventor of the needed machinery and engines, not only for her own mills, but also for textile manufacturers throughout the world. Among these builders of engines an honourable place is held by the firm of John and Edward Wood, of Victoria Foundry, Bolton. From 1837, the year of Queen Victoria's accession, the works have been known under this name (Victoria Foundry) though they themselves date from the opening years of the nineteenth century.

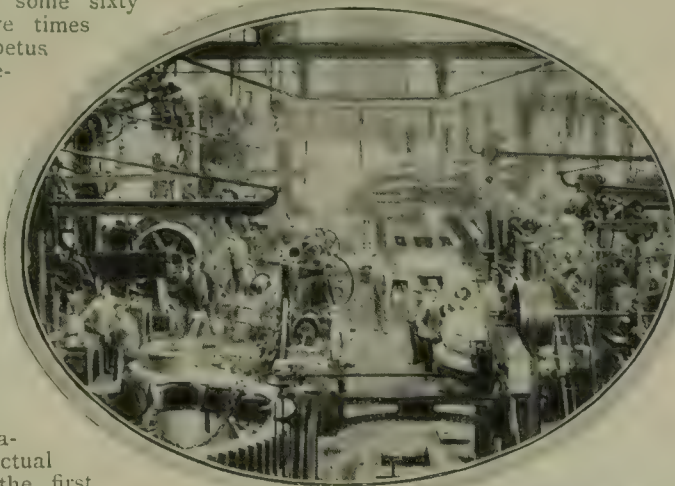
Up to 1859 the firm's business consisted chiefly of the manufacture of gearing for factories, general repairs, and, to a slighter extent, of the construction of machinery for gas-works, paper-works, and bleach-works. The name of the firm was known all over the world for its mill-gearing, and to this was then added the building of steam-engines for mills. At that time the beam-engine was the accepted type, but Messrs. J. and E. Wood took up the construction of horizontal and vertical engines with direct action, and in a very few years the firm had become noted for the excellence of its engines.

About 1870 the firm similarly began to specialise in the manufacture of Corliss engines, and to-day its compound and triple-expansion Corliss engines are in use all over the world in cotton, jute, woollen, and flax mills, in glass and cement works, flour and oil mills, rolling-mills and pottery-works, saw-mills and paper-mills, and engineering and machine works, as also electric-lighting engines, and engines for electric transmission of power. These engines have been made by Messrs. J. and E. Wood for over forty years,

and each part of the engine is the outcome of that experience. In the first rank for workmanship and finish, these engines are excelled by none in freedom from breakdown, steady running, silence, and economy. It is interesting to note that, as each type of engine has been developed, the very highest result was achieved by this firm. In 1887, when the compound engine at 90 lb. pressure was the ideal, one of this firm's engines, of 1900-i.h.p., was tested by the Boiler Insurance and Steam Power Company, Ltd., showing the exceedingly

unjacketed, boiler-pressure 156 lb., and the steam consumption was proved to be only 12.2 lb. per i.h.p. per hour, with a coal-consumption of 1.37 lb. per i.h.p. per hour. This coal was slack at six shillings per ton, so that nearly 23-i.h.p. was exerted at the cost of one penny per hour. In 1899 a small compound engine, 250-i.h.p., 120 lb. pressure, was tested by the owners for a week's run, under ordinary conditions, with the result that throughout the week the coal-consumption was 1.557 lb. per i.h.p. per hour. In 1901, a single-crank triple-expansion engine, 400-i.h.p., was tested by a combined staff of Messrs. Wood's and their customers' representatives for a full week, under the worst climatic conditions, with the result of an average coal-consumption of 1.3 lb. per i.h.p. per hour. In 1903, a compound engine built by the firm and working with superheated steam, 160 lb. pressure, was tested by the National Boiler and General Insurance Co. for steam-consumption. The result was that with super-heaters placed in the down-take of Lancashire boilers, and running under ordinary conditions, the steam-consumption was 11.08 lb. per i.h.p. per hour. In 1903, a horizontal cross-compound engine made by Messrs. Wood, working at 160 lb. with superheated steam, was tested by a staff of independent experts on a two days' trial, with the resulting coal-consumption of 1.218 lb. of dry Lancashire slack per i.h.p. per hour.

All engines made by J. and E. Wood are standardised throughout. The Corliss valve gear as made by this firm has stood every test, and is practically perfect. Every joint is adjustable; all wearing surfaces are exceptionally large, and the gear is regarded as the most silent ever designed. One specialty of the firm is the conversion of old engines and gearing to work under new and more economical conditions. The extensive works of the firm at Bolton are equipped throughout with the latest machine-tools, and a feature of especial interest is the turning of the rope-grooves in a giant fly-wheel, as it slowly revolves on its shaft between temporary bearings. Three or four cutting-tools rough out the grooves at once, and finally, by the aid of tools the exact shape of the grooves, the latter are finished to the proper shape. Illustrated below is the fly-wheel built by Messrs. Wood for a jute-factory in India. The engine is a Corliss compound of 2000-i.h.p. with cylinders of 32 and 62 inches diameter, having a stroke of 6 feet at a speed of 55 revolutions a minute. The fly-wheel is 28 feet in diameter, grooved for 46 ropes, its weight being about 65 tons. Every engine made by the firm carries Messrs. Wood's guarantee. The number of hands employed is about 500.



ONE OF THE MACHINE-SHOPS.



ONE OF THE BRECKING-SHOPS.

THE MAKING OF THE ENGINES THAT DRIVE COTTON-MILLS.

low average consumption of gross feed water of 15.38 lb. per i.h.p. per hour. In 1892 a triple-expansion



CASTING A STEAM-ENGINE CORLISS CYLINDER—62 INCHES IN DIAMETER, 6-FEET STROKE.

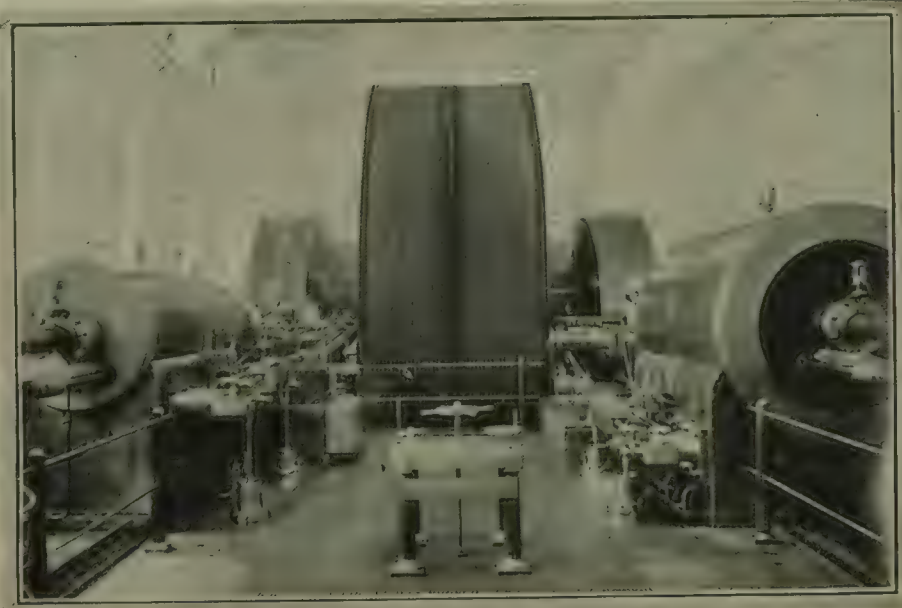
Messrs. Wood began to specialise in the manufacture of Corliss engines in 1870, or thereabouts, and their compound and triple-expansion Corliss engines are in use the world over.

engine by Wood was tested by the Boiler Insurance and Steam Power Company, Ltd. This engine was

Every engine made by the firm carries Messrs. Wood's guarantee. The number of hands employed is about 500.



THREE THOUSAND HORSE-POWER: TWO GREAT TRIPLE-EXPANSION ENGINES.



THAT WHICH "MAKES THE WHEELS GO ROUND": A LARGE ENGINE IN AN INDIAN JUTE-FACTORY.

"Especially impressive is the great fly-wheel, which, through its series of fifty or more revolving ropes, transmits the power of the steam-engine itself to the different parts of the mill. . . . It is this fly-wheel which, to use a colloquialism, 'makes the wheels go round' of every machine in the factory. . . . Illustrated above is an engine built by Messrs. J. and E. Wood for a jute-factory in India." The fly-wheel is twenty-eight feet in diameter and weighs sixty-five tons.

THE COMPLETE COTTON-MANUFACTURER: ONE OF THE OLDEST FIRMS IN THE COTTON INDUSTRY



THE COMPLETE COTTON-MANUFACTURER: MESSRS. BARLOW AND JONES' MANCHESTER PREMISES.

SO many different trades impinge on the sale, if not on the manufacture, of cotton fabrics, that a certain distinction is possessed by a Lancashire firm of manufacturers which consciously restricts itself to cotton textiles alone. At the least its reward is that of the specialist. That recognition was long ago won by the old Manchester firm of Barlow and Jones, Ltd., which, confining itself solely to the manufacture of cotton goods, and cotton goods only, has established for itself a pre-eminent position, and built up a trade which extends over the whole world. Established over seventy years ago, and now one of the oldest firms in the cotton industry, the volume of their trade may be gathered from the fact that they have nine mills (which are situated at Bolton), containing over 300,000 spindles and several thousand looms, while the number of employes exceed 3500.

Received direct from Egypt and America, the cotton is put through the various devilling and cleaning processes, after which it is spun into yarn or thread ready for manufacture into cloth. Even at the spinning-mules and frames one begins to realise the immense variety of the firm's trade. In particular, Barlow and Jones, Ltd., are renowned for their fine-quality goods, hence the fact that the firm is one of the largest consumers of Egyptian cotton, which, by reason of its longer fibre, can be spun into finer counts than American. Here it may be explained that a "count" is the degree of fineness into which cotton is spun. A "count" is the number of hanks of yarn, each of 840 yards, in a pound. The heavier a hank the coarser, and therefore lower, is the yarn. On an average, yarn for ordinary cotton fabrics ranges between "32's" and "42's." For its finest textiles, however, Messrs. Barlow and Jones, Ltd., spin up to "200's" (which means that one pound of yarn contains 168,000 yards of thread), while for coarse, loosely woven fabrics, "8's" (6720 yards to the pound) are spun.

are produced by loose weaving, with only six or eight "picks" (or threads) to the inch; while in the firm's finest piques the threads

in recent years the energetic policy of dealing direct with the retailer has been adopted, with the result that the business of the firm has been largely increased and extended. The advantages of this business policy, both to the public and the manufacturer, are too obvious to need emphasis, for the middleman's profit is eliminated in the case of Barlow and Jones' goods, which pass direct from the firm

which produces them to the shop where they are bought by the consumer. As part of this policy, the firm has registered trade-marks for many of its specialities, among which are the "Osman" towels, "Osman" flannelettes, "Elephant" sheetings, "Elephant" quilts, "Silvasheen," "Taffaline," "Sylkuna," "Florentine," and "Glyceen" dress-linings, "Zingaline" and "Tussora" dress-fabrics, and many others. These names are accepted and sought for as the hall-mark of quality, denoting as they do that the respective articles have been made by Barlow and Jones, Ltd.

Selling direct to the retailers, the firm is now represented by a large body of travellers, whose activities cover not only the British Isles and the whole of Europe, but also Australia, New Zealand, Canada, North and South America, South Africa, Egypt, and other countries. An illustration on this page shows one of Messrs. Barlow and Jones' travellers at an up-country township in Australia, and, while the picture is interesting as showing the way in which journeys must still be made in the "back blocks," it is also representative of the enterprise of the firm and the far-flung web of its business connections.

The following are Messrs. Barlow and Jones' headquarters and some of their branches. In many of these large stocks are kept always in readiness to meet the immediate demands of retailers. In the British Isles the firm's addresses are: Manchester, 2, Portland Street; Bolton, No. 1 Albert Mill, No. 2 Albert Mill, No. 1 Prospect Mill, No. 2 Prospect Mill, No. 3 Prospect Mill, Cobden Mill, Egyptian



A PRELIMINARY TO THE WEAVING OF FIGURED GOODS: TRANSFERRING A DESIGN TO JACQUARD CARDS.



SPINNING THE COTTON INTO YARN: A GREAT SPINNING-MULE IN USE.

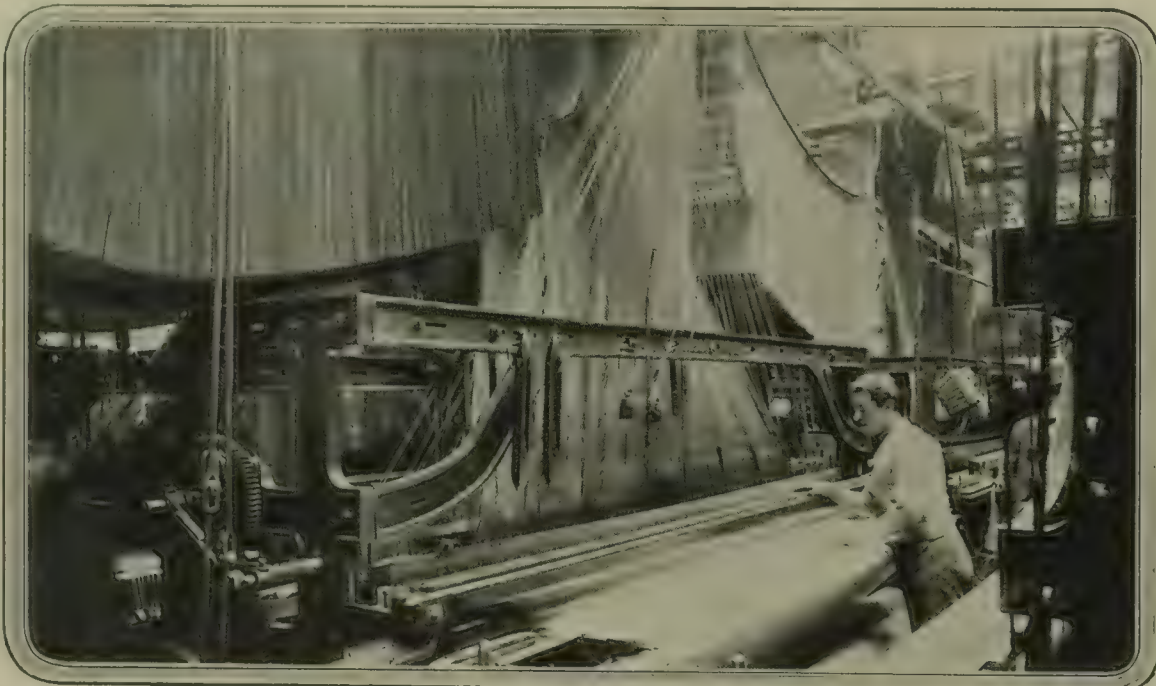


MANCHESTER TRADE IN AUSTRALIA: A COMMERCIAL TRAVELLER IN THE "BACK BLOCKS."

This wide (and probably unequalled) range prepares one for the wonderful diversity of cotton textiles and articles manufactured by the firm. Bed-quilts, bed-spreads, toilet covers, Turkish towels, flannelettes, dress linings, piques, zephyrs, sheeting, and cotton blankets are some of the principal manufactures. Of quilts and towels they are among the largest makers in the world. As specialists in cotton, the firm weave quilts of intricate and delicate design on Jacquard looms with their battalions of cards through the holes in which each one of the thousands of threads is drawn and marshalled into any required design. In particular Barlow and Jones, Ltd., make a speciality of fine quilts with names and crests woven in the fabric itself, as also of towels, sheets, and sheetings with monograms for leading hotels, steamship companies, railway companies, and public institutions throughout the world. Certain styles of Jacquard cottons are woven in extraordinary widths, up, indeed, to 120 inches. A large quantity of waste yarn is utilised by the firm for manufacture into cotton blankets, which are in enormous demand among the natives of Central and South Africa, by far the larger proportion of whom are clothed with Barlow and Jones' blankets. These blankets

run five or six hundred to the inch. That is to say, the shuttle flying backwards and forwards in the loom,

Mills; London, 92, Watling Street, E.C., and 17, Aldermanbury, E.C.; Glasgow, 51, Buchanan Street; Liverpool, 31A, Tarleton Street; Birmingham, 24, Cannon Street; Newcastle, 4, Forth Lane; Dublin, 15, Wicklow Street. In Australia they are: Melbourne, 236, Flinders Lane; Sydney, 69, York Street; Brisbane, 7, Commonwealth Buildings; Adelaide, 8, Gay's Arcade; Perth, W.A., 30, King Street; and Hobart, Tasmania, 61, Murray Street. In New Zealand they are represented at Christchurch, Moa Buildings, Lichfield Street; in South Africa, at Cape Town, at 24, St. George's Street, and at Durban, West Street; in North America, at New York, 28, White Street; in Canada, at Victoria, B.C., 703, Johnson Street, and at Montreal, Lindsay Buildings, St. Catharine Street; in South America, at Buenos Ayres, Casilla Correo 1541; Rio de Janeiro, Rua da Alfandega 68; and at Sao Paulo, Rua Florêncio d'Abreu 1, on the Continent of Europe, at Paris, 10, Rue d'Uzès, 7, Rue Thorel, and 54, Rue de Château d'Eau; Berlin, Yorckstrasse 89 (S.W. 47); Hamburg, Neuerwall 1711; Elberfeld, Stuttgartstrasse 27; Frankfurt, 73, Mendelssohnstrasse; Amsterdam, 83, Heerengracht; Brussels, 17, Avenue du Midi; Zurich, 19, Barengasse; Christiania, Kongensgade 33; Stockholm, Postfach 94; Copenhagen, Tordenskjoldsgade 3; Milan, Foro Bonaparte 67; Naples, Via Guglielmo Sanfelice 33; Rome, Via S. Maria in Monticelli 3; Madrid, Toledo 12 Pral; Lisbon, Rua da Prata 59, 2º; Athens, Rue Philhellenes, 15A; and at Constantinople, Cairo, Alexandria, and Palermo.



WEAVING THREE-YARD-WIDE QUILTS: A LARGE JACQUARD LOOM IN USE.

"THE ASSEMBLED INDUSTRIAL ARISTOCRACY OF MANCHESTER."

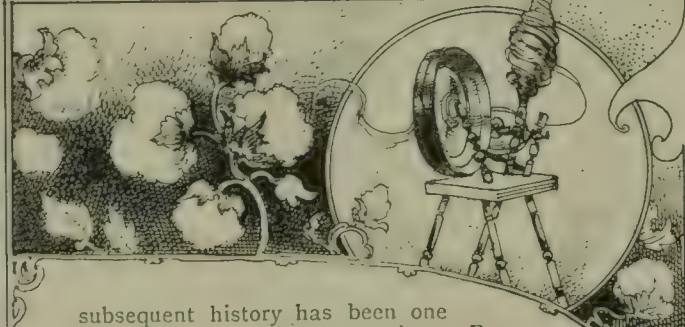
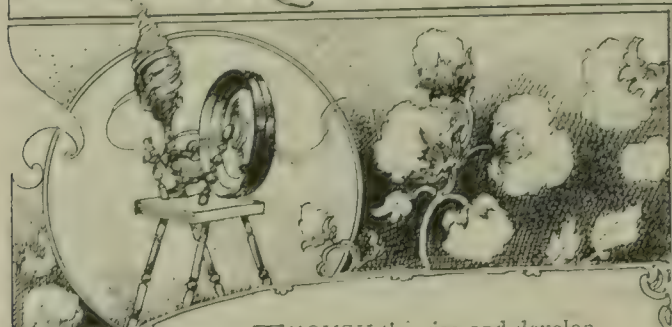
DRAWN BY S. BEGG, OUR SPECIAL ARTIST IN MANCHESTER.



THE MOST SILENT BUSINESS MEN: IN THE EXCHANGE AT ITS BUSIEST HOUR.

Says the author of "The Cotton Metropolis" (quoted in Black's "Guide"): "The place to see the assembled industrial aristocracy of Manchester . . . is on the Exchange. . . . The taciturnity of the crowd at first strikes you. You hear no vacant gossiping, no laughing, no loud talking whatever; yet an electric stream of intelligence seems to pervade the whole assembly; and every one by a look—a gesture—perhaps with a muttered word or two, appears to make himself fully understood. Now, what does all this whispering, nodding, and winking mean? Why don't they speak out? Why, because they are doing business—sounding each other—bargaining with each other to an amount of money that would appear fabulous. Hundreds of thousands of pounds change hands in these broken words and unfinished sentences."

A ROMANCE OF COTTON: COTTAGE TO GREAT FACTORY.

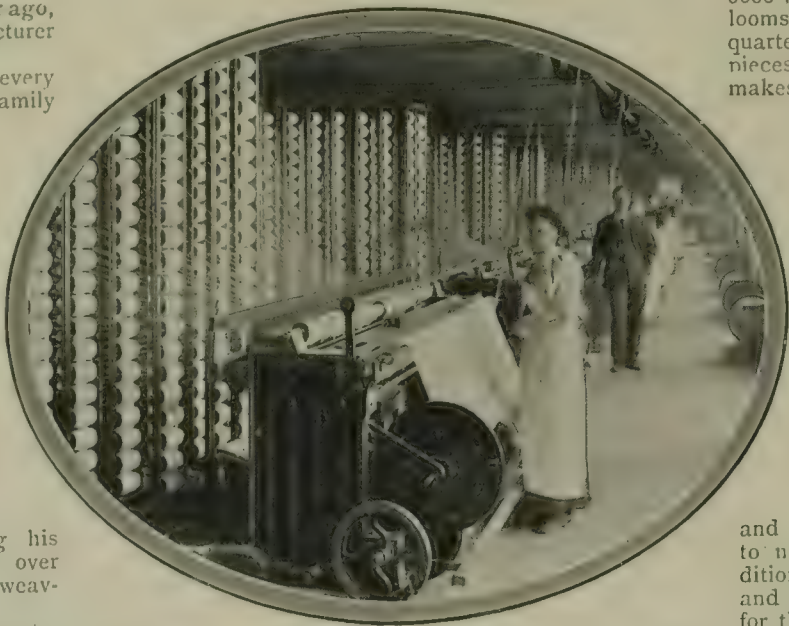


THOUGH the rise and development of the cotton trade in Lancashire in the eighteenth century is one of the great epics of industry, the history of its amazing growth and the romance with which it is coloured gain in interest and conciseness when narrated, as it may be, in the record of one firm which had its beginning in the spare corner of a quarryman's shed over a century and a quarter ago, and to-day can claim to be the largest manufacturer of long-cloths and calicoes in the world.

In the early days of the cotton industry, almost every Lancashire cottage was a factory. The head of the family purchased raw cotton, his wife and daughters carded and spun it into yarn, and he himself and son wove it into calico for sale to a merchant. Even the inventions of the flying-shuttle by John Kay, of the spinning-jenny by James Hargreaves, of the spinning water-frame by Richard Arkwright, and later of the spinning-mule by Crompton, scarcely affected this domestic manufacture of cotton. Thus, though John Horrocks, one of the eighteen children of a small quarry-owner at Edgeworth, near Bolton, was his father's assistant in hewing and polishing mill-stones for grinding corn, he set up a spinning-frame in a corner of the stonemason's shed and devoted his spare time to spinning cotton. His yarn was of such high quality that he secured a ready sale for it, and, buying more spinning-frames, he set his numerous sisters to the same work. Then came the time when, in selling his yarn to a weaver, so violent a quarrel arose over its price that Horrocks determined to start the weaving as well as the spinning of cotton.

In January 1791, John Horrocks, then only twenty-three years old, established himself as a cotton-manufacturer in Preston. He bought and carded the cotton himself; it was spun for him by employes in their own homes, and he similarly gave out this yarn to be woven

THE SMALL BEGINNING OF A GREAT TRADE: THE HORROCKS-FACTORY IN 1791, NOW A PART OF THE FIRM'S IMMENSE FACTORIES.



THE DEVICE THAT WINDS THE YARN OFF BOBBINS TO FORM THE WARP OF THE WEB: WARPING-FRAMES.

Warping is a comparatively simple though all-important process. It arranges the threads in parallel order to compose a warp for the loom.

subsequent history has been one of steadily increasing expansion. By absorption and amalgamation it is to-day the firm of Horrockses, Crewdson, and Co., Ltd., of which Sir Frank Hollins is chairman, with mills in Preston and Bolton, and warehouses in Manchester and London. The extent of the business may be gathered from the fact that 6000 workpeople are engaged in its mills, that its looms exceed 8000, and its spindles number nearly a quarter of a million. The weekly output averages 29,000 pieces of cotton fabrics in almost infinite varieties and makes. Chief among these are the long-cloths and calicoes which have made the name of Messrs. Horrockses, Crewdson, and Co. familiar the world over, the sheetings, flannelettes, fine cambrics, and fancy cotton fabrics. Allowing for the holidays, the annual output of the firm is 1,450,000 pieces, and as each averages forty yards in length the annual production amounts to over 30,000 miles. The mills at Preston cover more than sixty acres, and one weaving-shed alone contains 2000 looms.

In striking contrast with the roar of actual manufacture is the stillness of the firm's great warehouse in Manchester, where the bales of fabric are received from the mills, examined, stamped, packed, and dispatched to all parts of the world. To the housewife of to-day, as to mother, grandmother, and great-grandmother before her, the name of "Horrockses," stamped on the selvedge, is a hall-mark of excellence and quality all over the world. It is interesting to note here the firm's adaptability to modern conditions. Formerly ladies bought sheetings by the yard and themselves cut up and hemmed it into sheets for the bed. But the modern woman is not much given to needlework, and responding to the change, Messrs. Horrockses commenced to make sheets ready for use.

Abroad, as at home, Horrockses' name and goods are known and valued to-day, as they have been for



SLUBBING AND ROVING MACHINERY.

We illustrate two of the many outward and visible signs of the great industry that is carried on at Messrs. Horrockses, Crewdson and Co.'s, a firm that can claim high place in the romance of cotton. In 1791 John Horrocks set aside his stone-mason's hammer and became a cotton-manufacturer, buying and carding the cotton himself. In ten years he had seven mills. Three years later, when he died, he was M.P. for Preston and had a fortune of £150,000.

into calicoes and long-cloths. Within twelve months he built premises which still stand as part of the now immense factories of Horrockses, Crewdson, and Co. In less than ten years John Horrocks had extended his business to seven mills. Only thirteen years elapsed between the time when he laid down the stonemason's hammer and his death, at the age of thirty-six, as a great cotton-manufacturer, as M.P. for Preston, and leaving a fortune of £150,000.

It is such a career as that which invests the early development of the cotton trade with the atmosphere of romance. But so well and truly had John Horrocks laid the foundation-stones and built up the business that its



THE CENTENARY MILL ENGINE.



AN IMPORTANT PROCESS IN THE COTTON INDUSTRY: A SIZING-ROOM.

The dressing or sizing of the yarn on the beams in preparation for the looms is an important process in cotton-manufacture.

generations. In India, and even in the backwoods of Australia and other Colonies, Horrockses' calicoes and other fabrics, stamped with their name on the selvedge, are still sometimes used as a medium of exchange instead of money, so high and unvarying is the quality of Horrockses' goods recognised to be. There can be no better tribute than that to the uniform quality of Horrockses' manufactures, which are in evidence throughout the world. The bulk of the firm's trade, however, is in the home market; though for a firm of less size its exports to India and Asia generally, to South Africa, Canada, Australia, and South America, would be considered gigantic.

IN THE PUBLIC EYE AT MANCHESTER.



1. THE COUNTESS OF DERBY,
Wife of the Earl of Derby and Daughter
of the Seventh Duke of Manchester.
2. MRS. HOLT,
Lady Mayoress of Manchester.
3. MRS. KNOX,
Wife of the Bishop of Manchester.

4. MISS BELL,
Well Known for Philanthropic Works
in Manchester.
5. MISS MARGARET ASHTON,
Member of the Manchester City
Council.
6. MRS. RUSSELL ALLEN,
Wife of Mr. Russell Allen.

7. MRS. S. F. COLLIER,
Wife of the Rev. S. F. Collier.
8. LADY TALBOT,
Wife of Sir W. H. Talbot, Town
Clerk of Manchester.
9. MRS. JOHN ROYLE,
Wife of Alderman John Royle.

10. MISS M. SPARSHOTT,
Lady Superintendent of Nurses, Man-
chester Royal Infirmary.
11. MRS. THEWLIS,
Wife of Councillor J. H. Thewlis.
12. HER MAJESTY QUEEN ALEXANDRA,
From the Portrait by Hellen.

PIONEERS OF THE EXTENSION OF THE COMMERCIAL AREA OF MANCHESTER.

THE growth of Manchester trade, and with it the extension of the town, is vividly illustrated by the fact that no more than seventy-five years ago it was regarded as an almost daring innovation for a firm to build for itself a warehouse in York Street, now one of the main arteries of the cotton trade of the entire world. That part of Manchester was then suburban, if not rural. It flanked the old Infirmary, which, because it has come to be in the very centre of the city and surrounded by buildings, has been removed to the Oxford Road premises, the opening of which was the purpose of the King's visit to Manchester. Later even than a century ago the warehouses were still situated mainly in and about Cannon Street and Market Street Lane, where some time before 1810 the firm of Henry Bannerman and Sons was established by David Bannerman, a Perthshire man, whose business venture brought such prosperity that he induced his father, Henry Bannerman, to come to Manchester with the rest of his sons and to establish the business ever since inseparably connected with his name. Six years later larger premises were secured in Marsden Square, but in 1827 the Bannermans led the way in an extension of the commercial area of Manchester by removing their business, westward of the Infirmary, to the top of Market Street; and afterwards the present warehouse was built in York Street. The business comprises several

dual part of directing and organising manufacture on the one hand, and of distributing the manufactures to the customers of the firm.

In the basement are the stores of flannels, blankets, rugs, oilcloths, and grey calicoes, twills, sheetings, etc. The whole of the first floor is occupied by the linen and shirt departments, while above are the bleached calicoes, shirtings, twills, fustians, velveteens, jeans, and lambskin departments. On the third floor are the quilts, counterpanes, toilet covers, cotton blankets, fancy dress goods, skirtings, etc. Already the reader will have noted that, with the ascent from

floor to floor, the goods become more varied, and of a lighter character, the "heavies" having their place in the basement, while the fourth floor is occupied by flannelettes, Oxfords, prints, zephyrs, sateens, muslins, lace curtains, etc.

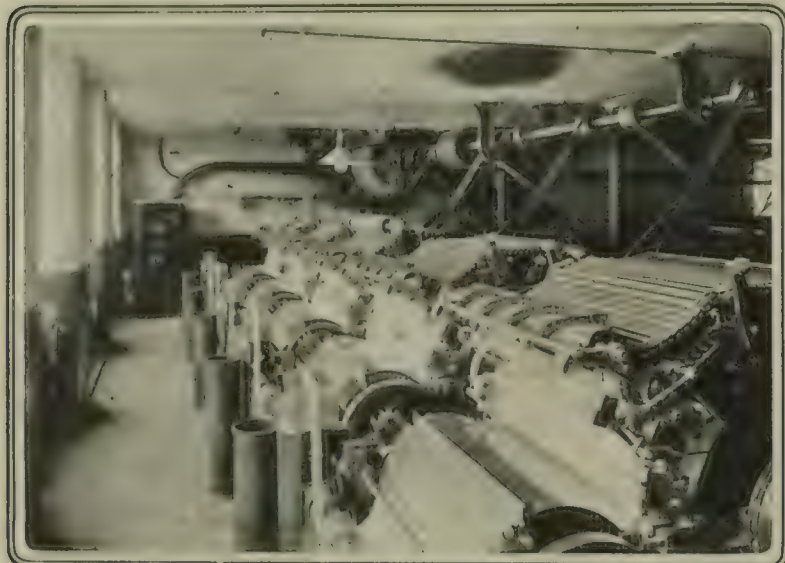
Work for the day begins at 7.30 a.m. (for Manchester is an early rising city) with the opening of letters, and the transmission of the orders to the various departments, each of which takes from stock what is required of it and sends the goods down to the entering-room. Here the different items—so many pieces of grey calicoes, of sheetings, prints, etc., etc.—of an order are assembled, or made up, carefully checked, and passed to the packing-room. Checked again here, the goods are packed into a bale or bales and despatched to their destination.

THREE OF THE LARGEST COTTON BOLLS EVER GROWN, THE RESULT OF SCIENTIFIC CULTIVATION.

The two small ones are ordinary size.



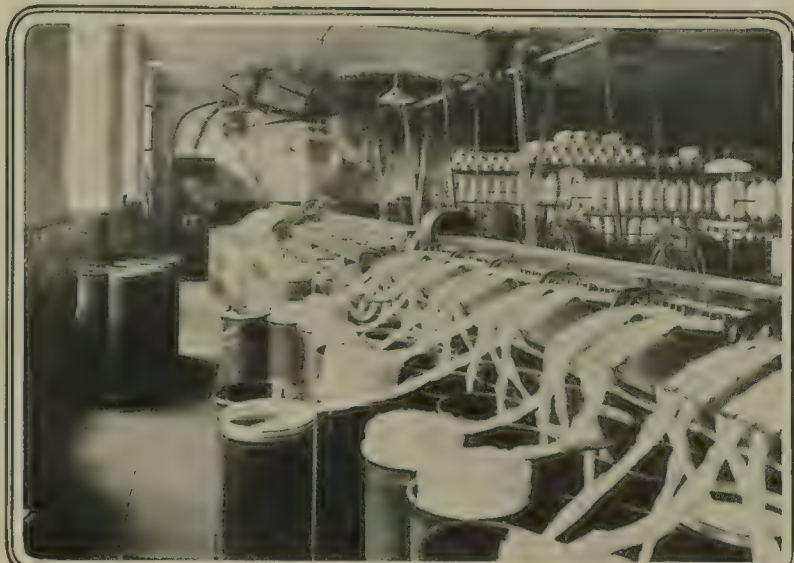
GATHERING THE RAW MATERIAL: IN THE COTTON-FIELDS.



THE MACHINES, DRIVEN BY ELECTRICITY, THAT MAKE THE FIBRES OF THE COTTON PARALLEL: PART OF THE CARD-ROOM, BRUNSWICK MILL, ANCOATS. No matter how carefully cotton may be opened its fibres are not parallel, indeed, they are at all manner of angles to one another. It is necessary that they should be so, and thus carding comes into operation. This frees the cotton from all impurities, and calls for the use of splendid machines.

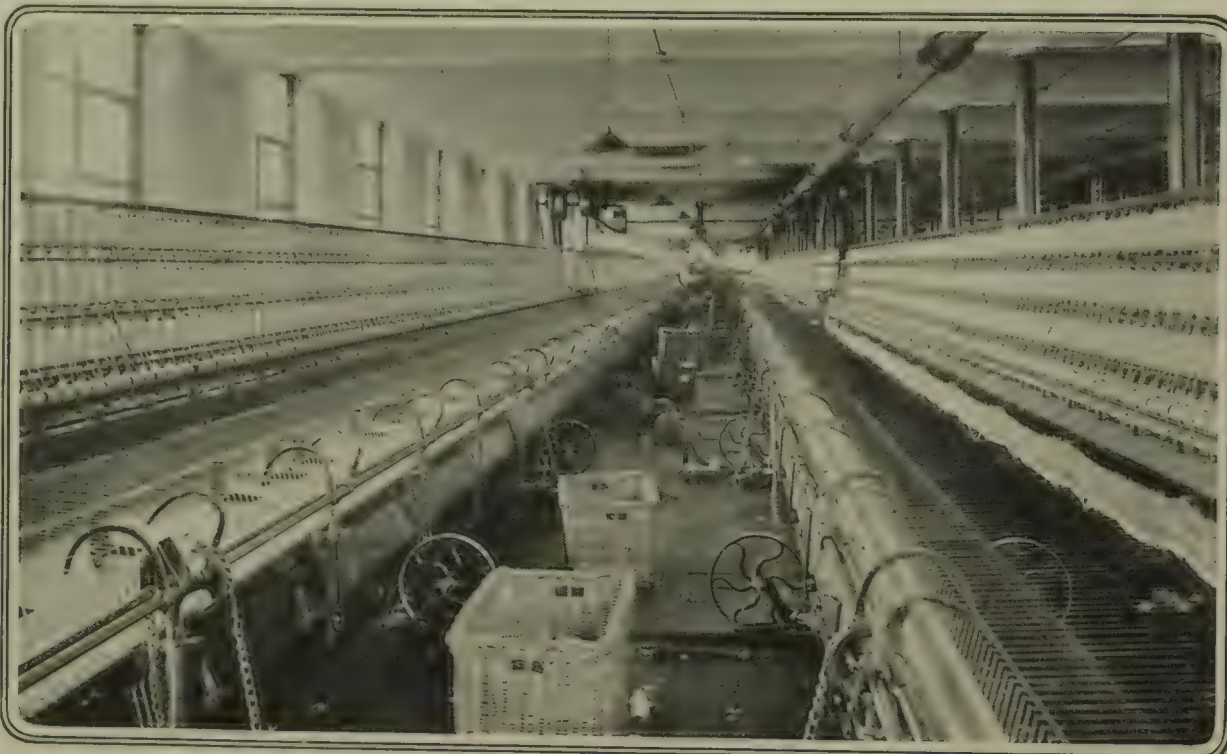
sufficient yarn to keep several thousands of looms continuously at work in the manufacture of the yarn into cloth. The firm thus not only manufactures some of its own yarn into goods, but sells yarn to other manufacturers, through whose looms it, in the form of finished fabrics, ultimately reaches the warehouse in York Street, Manchester.

This large building is the headquarters of the business of Bannerman and Sons. It is the centre where commerce plays its



THE MACHINES, DRIVEN BY ELECTRICITY, THAT REDUCE THE THICKNESS OF THE SLIVERS OF COTTON: IN THE FRAME-ROOM, BRUNSWICK MILL, ANCOATS. The slivers, or rolls of cotton in the loose untwisted state in which they leave the carding machines are reduced in thickness after they have been doubled by means of drawing-frames. The more often a sliver is doubled and elongated, the better should be the yarn spun from it.

factories devoted both to the spinning of cotton yarn and the weaving of piece-goods. In addition to the Brunswick Mill, in the Ancoats district of Manchester, the firm has the North End and River Meadow Mills at Stalybridge, and the Old Hall Mill at Dukinfield. In the development from the first stage of mechanical power, the Brunswick Mill, Ancoats, claims particular attention from the fact that while, on its erection, it embodied the very finest equipment of steam-engines known at that time, it has by successive changes kept itself abreast of every mechanical improvement, and to-day it possesses the almost unique distinction of being driven by electric power. The total spinning output of which these Bannerman Mills are capable represents



ONE OF THE MULE-SPINNING ROOMS, DRIVEN BY ELECTRICITY, BRUNSWICK MILL, ANCOATS.

"Since the mule was invented, above a century ago," says Mr. John Lister in "Cotton Manufacture," "up to the present time, there has been a constant endeavour to increase the number of spindles. Fifty years ago each mule contained as many as from three to four hundred spindles. . . Mills are now built sufficiently wide to hold more than 1200 across the room."

With this outward flow of goods there is a reciprocal inflow to maintain or increase stocks of goods from the Bannerman Mills or other manufacturers. A complete telephonic system connects the whole business, and behind this visible activity, inspiring and controlling it, there is the management, in whose hands are gathered all the strands of the whole organisation, with interests so varied as the prospects of the cotton-crop, the time to buy raw material, the running of the mills, ideas for opening up of new markets, and a hundred other points which arise for judgment and decision in addition to the ordinary daily routine of so diversified a business as that carried on by Henry Bannerman and Sons, Limited.

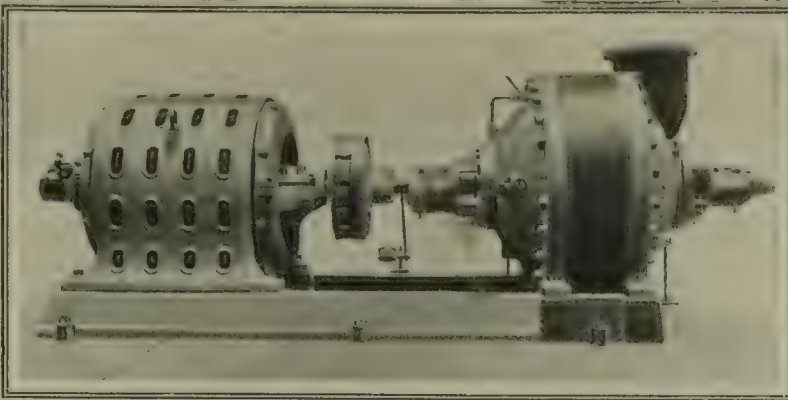
SUCCESSOR TO HAND, DOG, HORSE, & STEAM POWER: ELECTRICITY IN THE COTTON-MILL.



IN the early days of the cotton trade in Lancashire, the preparation of the raw cotton, its spinning into yarn and weaving into cloth, were carried out by hand, while in some cases the machinery was driven by dog-power—one or two mastiffs being caged in wheels which they trod round as smaller dogs used to turn the kitchen spit. Or again, a manufacturer would connect a machine with a pole, which a horse walked round and round in a circle. Then came the application of the steam-engine. But this is the age of electricity, and how keenly alive and alert is Manchester to the adoption of every modern improvement is shown by the fact that electricity has been substituted for steam as the motive power in the Brunswick Mill, belonging to the Bannerman Mills Company, Ltd.

This conversion of an old-established mill, in continuous and successful operation for several generations, to the latest modern conditions, by the installation of electric power for driving the machinery which prepares and spins the cotton, is a unique achievement, characteristic though it is of the enterprise and courage which have invariably distinguished the career of the Managing-Director, Mr. C. W. Macara. For it required considerable courage practically to place the continuity of the running of the mill in the hands of an outside source of power, even though that be the Electricity Department of the City of Manchester. The installation is not quite completed, but the results, so far, have amply justified the confidence shown in the Electricity Department, while the arrangement between the two parties may be cited as a striking example of the enormous influence which a centralised electric-power supply may exert in the industrial development of a district. The effect of a general adoption of electrical driving of machinery would be that the solution of the smoke problem, which is ever-present in large manufacturing towns, would be speedily attained.

The work involved in this conversion from steam to electricity (carried out by the British Thomson-Houston Company, Ltd., of Rugby, under the general supervision of the City Electrical Engineer, Mr. S. L. Pearce, M.Inst.C.E., M.I.E.E., etc.), may be gathered from the size of the Brunswick Mill. This mill contains both mule and ring spindles, and on the Federation basis is rated as equal to 100,000 mule spindles, spinning from 36's to 72's from American and Egyptian cotton. The whole of this machinery was driven by means of two steam-engines—a two-crank beam-engine and a single-crank horizontal engine with a combined power of about 1600-i.h.p. For transmitting



THE ELECTRICALLY DRIVEN PUMP THAT SUPPLIES THE SPRINKLERS AT THE BRUNSWICK MILL, ANCOATS: THE PATENT HIGH-LIFT TURBINE PUMP. The pump can raise 650 gallons a minute to the tank at the top of the eastern motor-tower which supplies the sprinklers.

engine. On installing the electrical drive, the whole of these gears and upright shafts were dispensed with, and there now remains in the mill only one pair of

to a very considerable amount, the maximum demand being at the very least twice the minimum.

A further serious consideration affecting the method of procedure to be adopted was the necessity for such an arrangement as would enable the mill to continue to be worked during the change from steam to electricity. It was therefore decided to build two motor-towers on that side of the mill nearest the courtyard, one at each end of the mill. The towers, which are independent of the main mill, consist entirely of steel structure, and glazed casing, no brickwork being used. In each of these towers are ten motors, being two motors for each spinning-room.

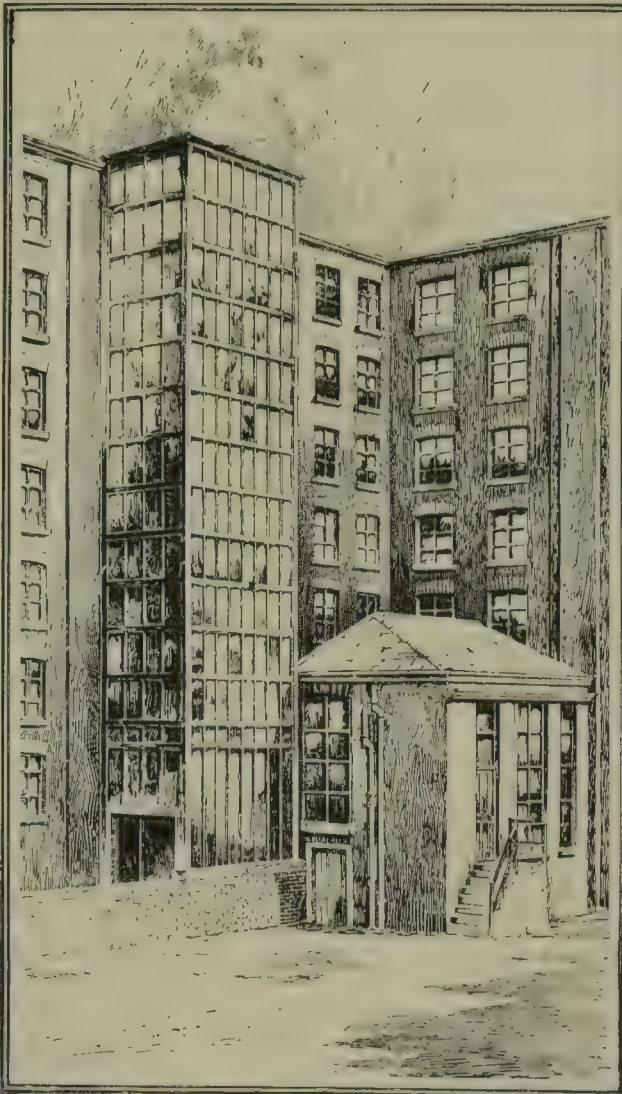
Each of the spinning-mule motors is rated at 75-b.h.p., running at 485 revolutions per minute, and directly coupled to the mule-line shaft by means of a flexible coupling. In the eastern tower a 30-h.p. motor, running at 725 revolutions per minute, is installed on each floor, directly coupled to the line-shaft by means of a flexible coupling, driving four ring spinning-frames by ropes from the main shaft by a novel and ingenious system of rope-transmission, which provides for at least three changes of speed at the spinning-frame. In the western tower a similar motor, but of 45-b.h.p. running at a similar speed, drives six frames per floor instead of four.

For driving the preparation-machinery the line-shafts originally in position in the mill were utilised, and to these line-shafts motors of 46-b.h.p. for the blowing-room; 150-b.h.p. for the card-room; and 130-b.h.p. for the speed-frames were directly coupled.

The current for driving the mill is led in by the Corporation mains at 6500 volts, and is carried to a sub-station, arranged in the basement of the original small engine-house. There it is transformed from 6500 volts to the working pressure of 400-415 volts for the motors, and to 220 volts for lighting purposes.

Advantage has been taken of the alterations carried through to equip the mill with sprinkler apparatus, the tank for supplying these being arranged on the top of the eastern motor tower. The supply of water to this tank is by means of an electrically driven pump.

As a result of the experience to date, the Mill Management are able to make a definite pronouncement that they are obtaining from the same machinery a larger production, and it is believed that when the installation is in thorough working order, the more regular turning will give an improved quality of yarn. This statement, coupled with the fact that the manufactures of this company have always been of the highest grade, is eloquent testimony to the advantages which



OF STEEL AND GLAZED CASING: ONE OF THE GREAT MOTOR-TOWERS CONTAINING TEN MOTORS, AT THE BRUNSWICK MILL, ANCOATS.

The towers are independent of the main mill. Each consists entirely of steel structure and glazed casing, no brickwork being used, and in each are ten motors, two for each spinning-room.

bevelled gears, which for purely local reasons of convenience have been allowed to remain, driving a small amount of machinery in one of the wings of the mill.

The mill to-day is driven from the electric mains of the Manchester Corporation by means of Three Phase motors working on 400-415 volts supply at a frequency of fifty cycles per second. There are in all thirty-seven motors, aggregating 1639½-b.h.p.

One of the most interesting features in regard to this installation is the method adopted for driving the five spinning-floors. On each of these floors there are four pairs of mules and ten ring-frames. The positions of these machines in the various flats rendered it necessary that not more than two pairs of mules should be driven from one motor. This in itself was a somewhat difficult requirement, inasmuch as the power demand for driving this particular class of machine varies

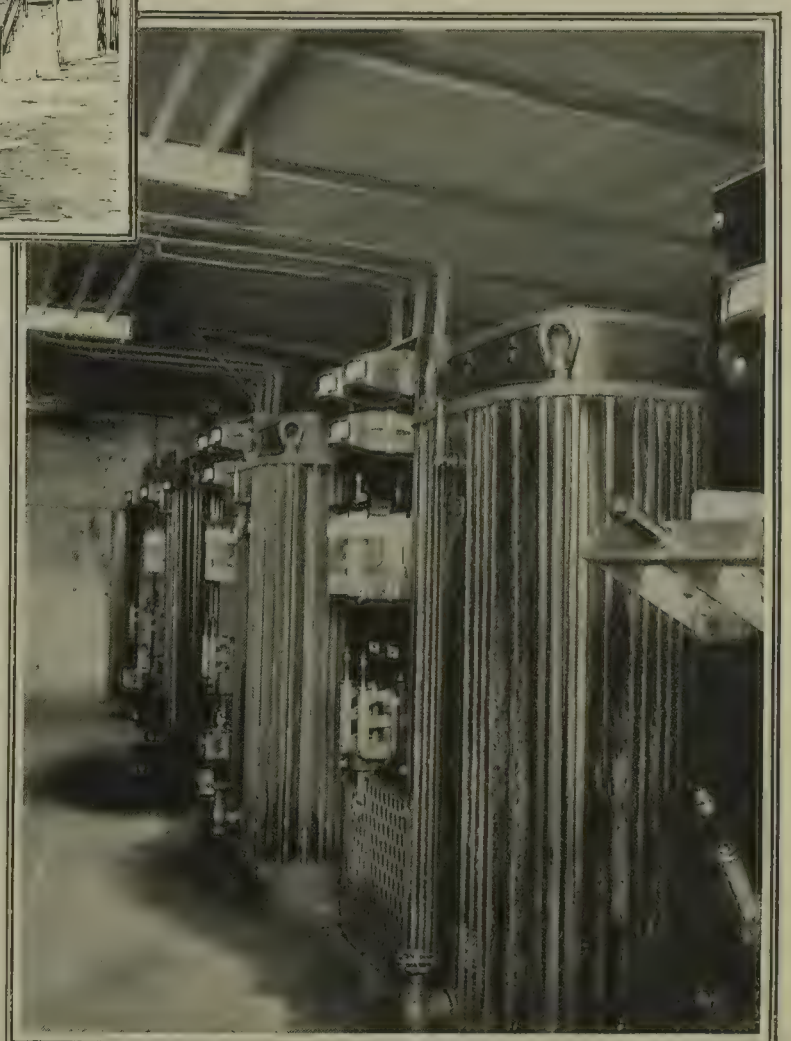


THE MULE-ROOM AND RING-FRAME MOTORS: THE HIGH-TENSION CHAMBER AT THE BRUNSWICK MILL, ANCOATS.

On each of the five spinning-floors are four pairs of mules and ten ring-frames. The position of these in the various flats renders it necessary that not more than two pairs of mules shall be driven from one motor. Each of the spinning-mule motors is rated at 75-b.h.p.

the power from these engines to the various rooms in the mill, spur-gears, upright shafts, and bevelled gears were adopted from the large beam-engine, and rope-driving with bevelled gears from the small horizontal

dered it necessary that not more than two pairs of mules should be driven from one motor. This in itself was a somewhat difficult requirement, inasmuch as the power demand for driving this particular class of machine varies



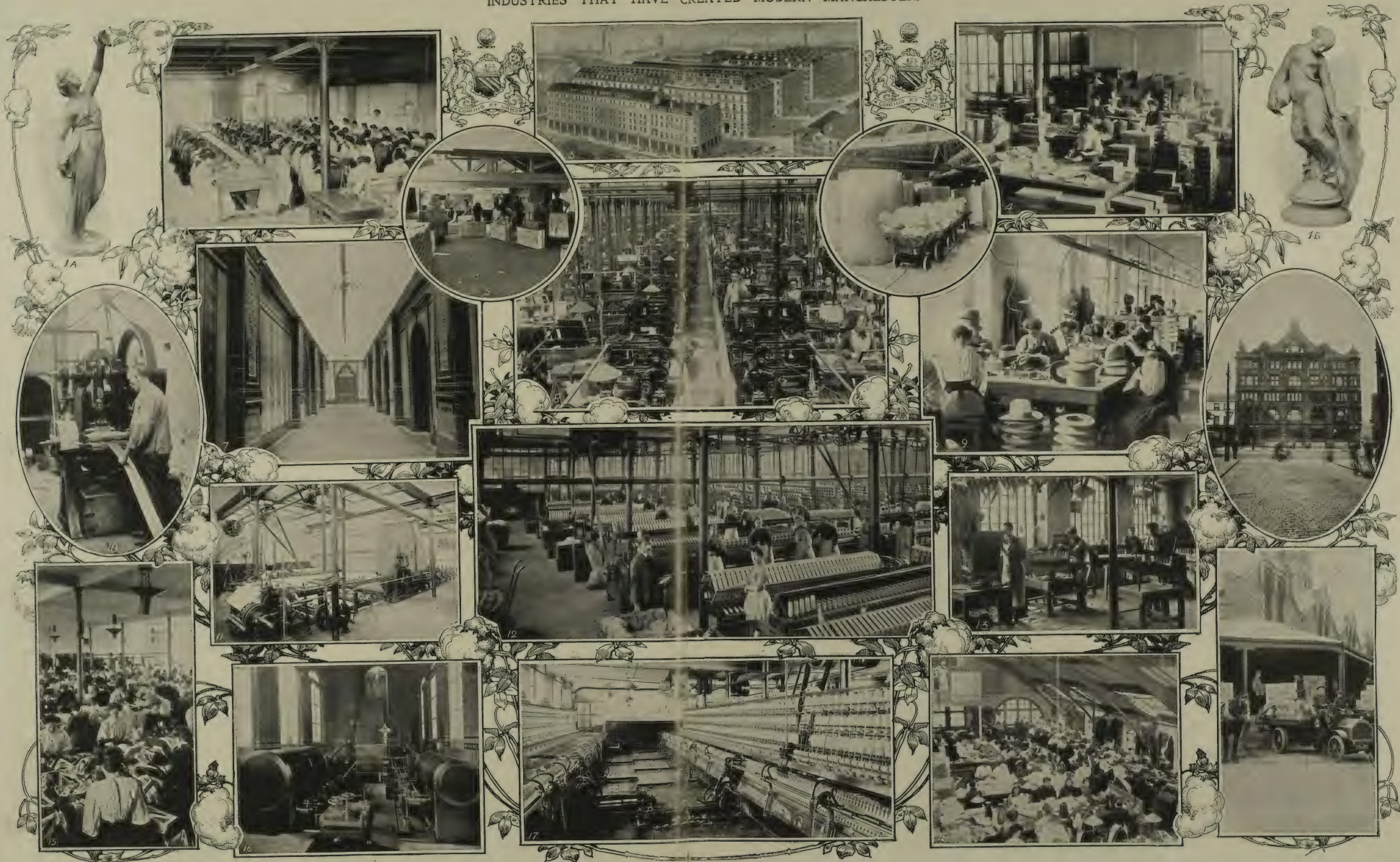
THE POWER-HOUSE: INSIDE THE HIGH-TENSION CHAMBER AT THE BRUNSWICK MILL, ANCOATS.

The Brunswick Mill is driven from the electric mains of the Manchester Corporation by means of Three Phase motors, working on 400-415 volts supply at a frequency of fifty cycle per second. There are in all thirty-seven motors, aggregating 1639½-b.h.p.

accrue to the application of electrical power to the textile industry. The Bannerman Mills Company has two other mills situated in Stalybridge, and one in Dukinfield, where cotton spinning and weaving are carried on.

THE WEB OF THE WORLD: SOME OF THE MANY STRANDS THAT GO TO ITS MAKING.

INDUSTRIES THAT HAVE CREATED MODERN MANCHESTER.



1A. A GEM FROM A COLLECTION OF GEMS: A FINE ROYAL WORCESTER CHINA FIGURE, AT MESSRS. H. G. STEPHENSON'S.

1B. A GEM FROM A COLLECTION OF GEMS: A FINE ROYAL WORCESTER CHINA FIGURE, AT MESSRS. H. G. STEPHENSON'S.

2. BRINGING TO BRITAIN THE AROMA OF THE EAST: CIGARETTE-MAKERS, AT MESSRS. MURATT'S.

3. A HOUSE THAT IMPORTS RAW COTTON AND TRANSFORMS IT INTO COMPLETE COSTUMES: MESSRS. RYLAND AND SONS' PREMISES, MARKET STREET AND TIG STREET.

4. WORKING IN MANCHESTER FOR THE MAN ABROAD: PACKING CAPS FOR EXPORT AT MESSRS. N. JACOBSON'S.

5. DEALING WITH THE MAKING OF GOOD LEATHER: IN THE POLISH-ROOM AT MESSRS. BERRY'S.

6. A SCENE THAT SUGGESTS "TURKHEST SOUTH": IN THE ALUM-BLOCK, OR FINISHING HOUSE AT MESSRS. PETER SPENCE AND SONS.

7. OUTWARD AND VISIBLE SIGNS OF THE REVIVAL OF AN OLD ART: A TILED CORRIDOR AT MESSRS. PILKINGTON'S.

8. INCREASING A RECORD OF FORTY YEARS: THE WEAVING-SHED AT MESSRS. BURGESS, LEDWARD'S.

9. THE LAST OF THE STAGES BETWEEN RABBIT-FUR AND HAT: FINISHING, AT MESSRS. SUTTON AND TORKINGTON'S.

10. CUTTING OUT THE FAMILIAR CROSSES: A METAL-STAMPING MACHINE FOR WOOD-MILNE HEELS.

11. ONE OF MANY PROCESSES: SIZING THE YARNS AT MESSRS. JONES BROTHERS', BEDFORD LEIGH MILLS.

12. COTTON GOODS IN THE MAKING: WINDING AND REELING THE SPUN YARN AT MESSRS. BARLOW AND JONES.

13. AT A MANCHESTER UNIVERSAL PROVIDER'S: UPHOLSTERING AT MESSRS. BAXENDALES.

14. A GREAT FACTORY THAT GREW FROM SMALL BEGINNINGS: MESSRS. HORROCKS, CREWDSON'S PREMISES.

15. DECORATIONS FOR A KING: COMFORT FOR MERE MAN: MAKING UNION JACKS AND SHIRTS AT MESSRS. SMETHURST AND HOLDENS.

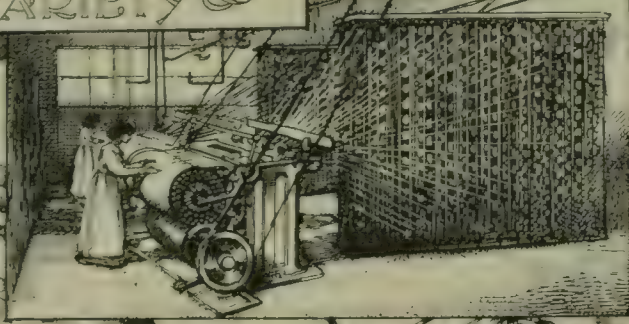
16. ONE-THOUSAND-HORSE POWER: A GREAT ENGINE, BUILT BY MESSRS. J. AND E. WOOD, IN A COTTON-MILL.

17. DRIVEN BY ELECTRICITY: IN A MULE-SPINNING-ROOM AT MESSRS. BANNERMAN'S.

18. WORKERS AT A GREAT INDUSTRY: AT MESSRS. FRANKENBURG AND SONS' RUBBER AND LEATHER GOODS WORKS.

19. FOOD THAT IS UNTOUCHED BY HAND: HORSE AND MOTOR VANS THAT DELIVER MESSRS. N. KILVERT AND SONS' LARD.

COTTON: ITS INFINITE VARIETY



TO the average person the manufacture of cotton means the manufacture of calico. Even though a little thought soon adds the names of other fabrics which are made from cotton, few people are aware how vast is the number, and how varied is the range of textiles into which cotton is transformed. It is sufficiently amazing for the mere layman visiting a mill to follow the evolution of the tangled, rather grimy raw cotton into the smooth, plain calico. He sees the cotton unpacked from the bales into which it was compressed on the American or Egyptian plantations, cleansed and beaten into light flakes, and combed and rolled into a sheet of cotton wool, each fibre of which has been set in parallel order by the carding-machine. Then the broad sheet of cotton is compressed into a flat riband or sliver of cotton. Through process after process wonderful machinery draws out that riband of cotton-wool until it becomes a thread, and then the weaving or interlacing of millions of threads into smooth cloth.

Scarcely less wonderful than this process of manufacture are the differences in fabric which are produced by variations in the machinery and processes. From the same raw cotton can be made stout calicoes or lawn as fine as gossamer, sateens or shirtings, velvets and plush, or an almost ivory-smooth cloth for printing maps. This wide range of the possibilities which lie in a bale of cotton and the contrasting forms it may finally assume are well illustrated in the business of the old-established Manchester firm of Jones

become known all over the world. Its manufacture presents some interesting features, for the final

process gives the material a distinctive character. Up to this process the Selvyt is a smooth-faced cloth on both sides, and its fine, soft, velvety finish is produced by cutting the threads on the topmost surface.

It is done by hand, and calls for the nicest skill on the part of the worker. In cutting Selvyt sufficient to make a dozen medium-sized polishing-cloths the knife has to travel 5460 yards. The dexterity and speed with which the work is done are amazing.

Another fabric manufactured by Jones Bros., Ltd., is a sunproof cloth, which wards off the effect of tropical sun—just as a waterproof cloth wards off moisture. The distinctive character of this sunproof cloth (to which the trade name of "Solaro" has been given) is that its own actinic qualities intercept or counteract the sun's rays, experiment and research having established the fact that it is the light rays rather than the heat rays of the sun which exercise their severest effect upon the human body. Experience and scientific theory likewise agree that the passage of the sun's light through a scarlet

substance neutralises the actinic rays, just as a red light protects the sensitive photographic plate. The same effect is secured by "Solaro" cloth, the underside of which consists of red yarn, while the outer surface may be of any varied colours. It is accordingly woven by Jones Bros., Ltd., in a great variety of designs and shades, but in each case the underside of the cloth is scarlet, which makes it sunproof.



MAKING A GREAT SPECIALITY: THE "SELVYT" HEMMING AND MAKING-UP ROOM.

Until the final process, which gives the material its distinctive character, "Selvyt" is a smooth-faced cloth on both sides, and its fine, soft, velvety finish is produced by cutting the threads on the topmost surface. This is done by hand.



THE SMOOTHING, FINISHING, AND MAKING-UP ROOM AT MESSRS. JONES BROTHERS' HANDKERCHIEF-FACTORY AT BELFAST.



ONE OF THE STITCHING-ROOMS IN MESSRS. JONES BROTHERS' HANDKERCHIEF-FACTORY AT BELFAST.

Bros., Ltd. Dating back for about seventy-five years, the firm represents the amalgamation of a manufacturing business with that of a merchant. In addition to mills at Bedford Leigh, outside Manchester, and a handkerchief-factory at Belfast, and the head warehouse in York Street, Manchester, there are branch houses in London and Shanghai and agencies all over the world.

In addition to the manufacture of cotton in the general varieties of muslin, nainsook, India linens, cambrics, shirtings, drills, Galateas, campans, fancy muslins, brocades, and dress goods, Jones Bros., Ltd., have certain specialities, including the "Veluna" cloth, for lithographic printing, the "Alyta" waterproof fabrics, "Bergerette" cloth, for general upholstery. The firm is also the inventor and sole manufacturer of the well-known "Selvyt" polishing cloth.

Since its introduction sixteen years ago, Selvyt has



"SELVYT"—MAKING: THE KNIFE THAT MUST TRAVEL OVER THREE MILES TO MAKE A DOZEN POLISHING CLOTHS.

As we have noted, the velvety surface is given to "Selvyt" by cutting the threads on the topmost surface. The photograph shows a stall with "Selvyt" cloth. In the foreground is a piece of "Selvyt" stretched on a frame, with one of the knives used to give the pile surface. To cut sufficient of the "Selvyt" to make a dozen medium-sized polishing-cloths, the knife has to travel 5460 yards (over three miles).

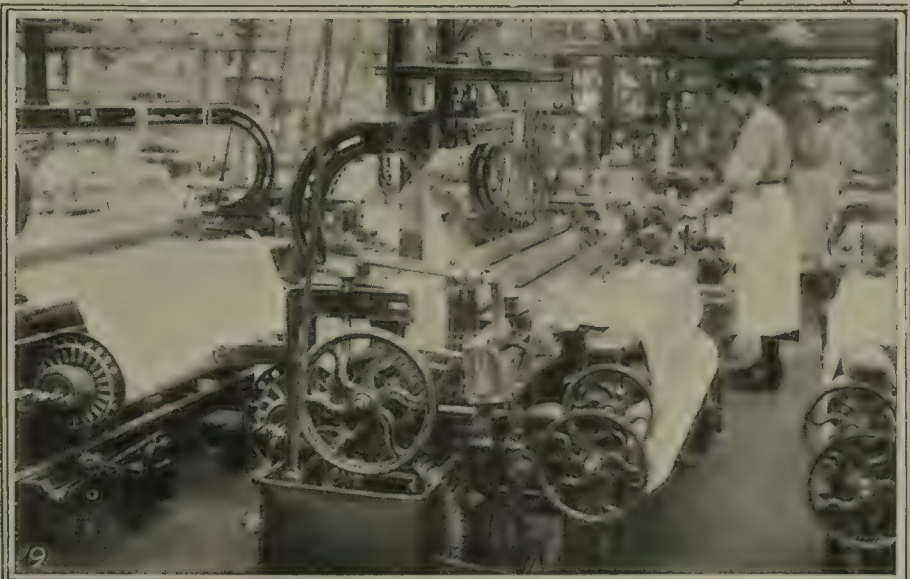
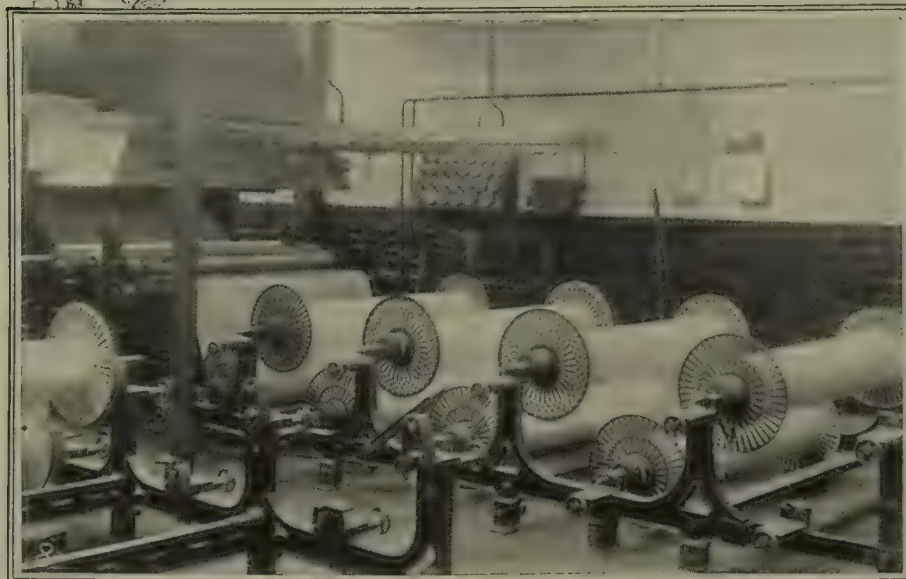
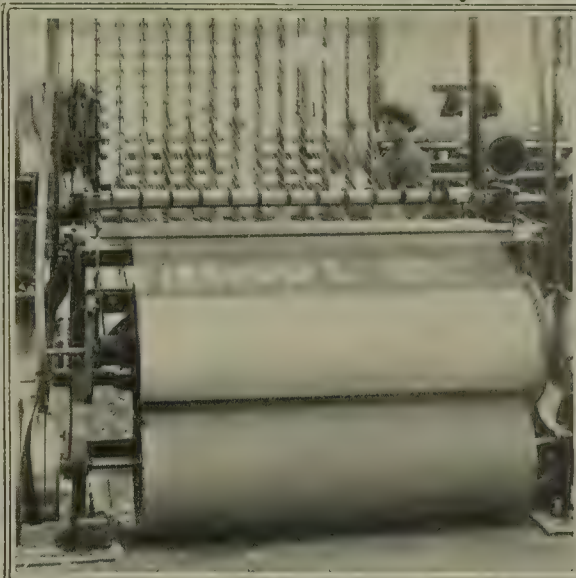
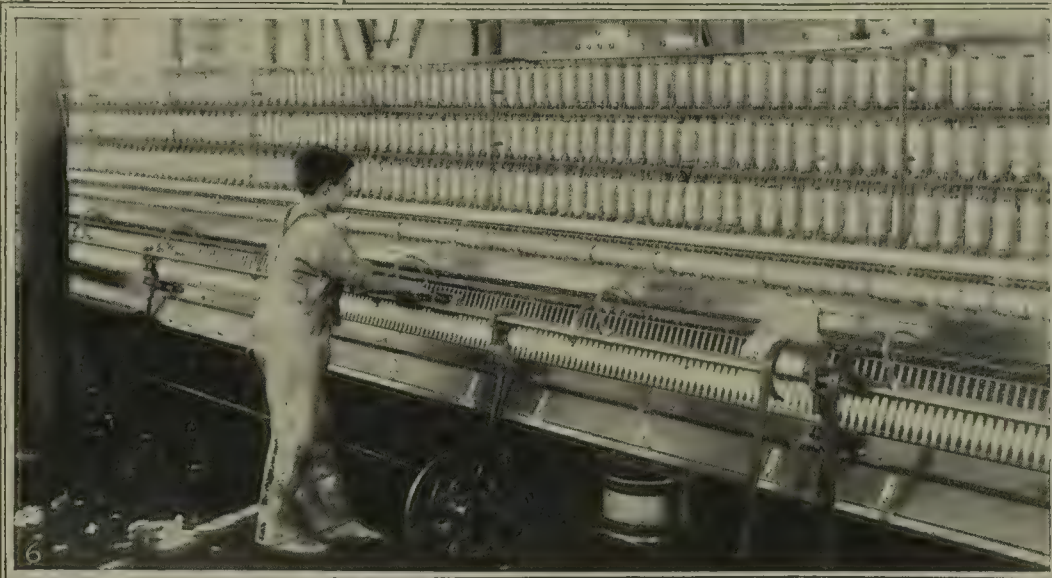
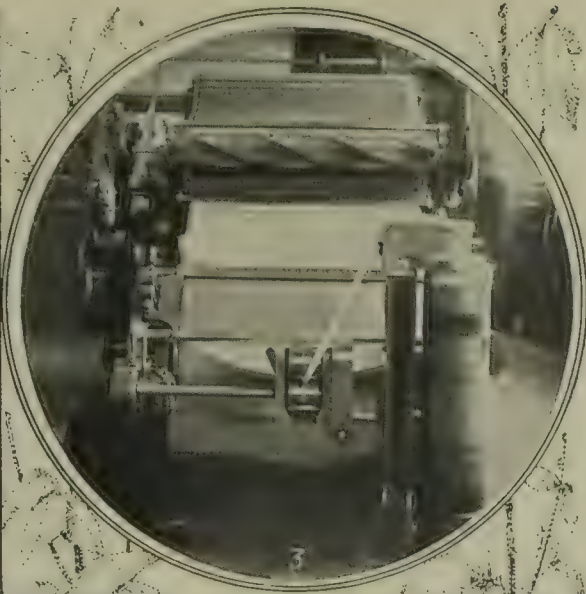
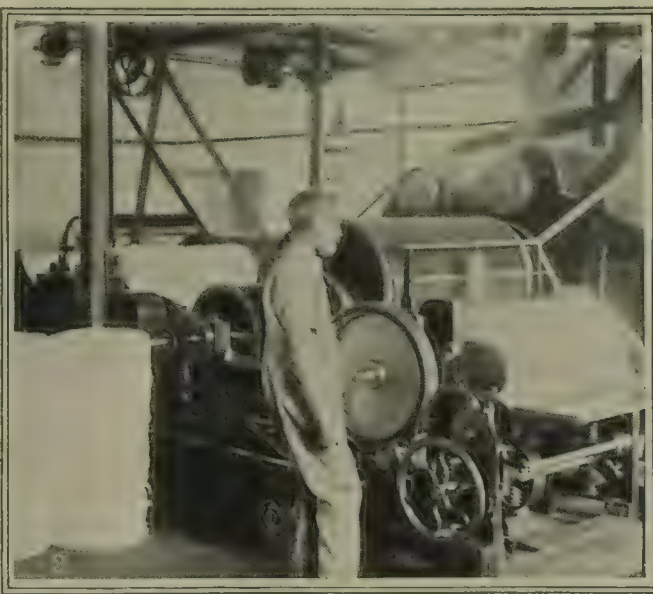
This unique quality of Solaro has won for it official patronage and approval, certain patterns having been sealed by the Colonial Office for the use of officers appointed to tropical countries, while it is increasingly used by travellers, explorers, sportsmen, and mountaineers. In addition to being sunproof, Solaro cloth is also shower-proof.

Other specialities manufactured by Jones Bros., Ltd., include a canvas for motor-hoods. It is waterproof without being rubber, and has emerged successfully from severe use. Veluna cloth is a perfect fabric on which maps may be printed direct, instead of on paper which has to be mounted on linen. Though drenched with rain, boiled, or washed, this Veluna cloth still retains its printed impression undimmed. Another production, and the most recent manufacture of the firm, is "Selvetta," a fabric for the polishing of silver or any metal.

BALE TO CLOTH: THE TRANSFORMATION OF "TREE-WOOL."

THE TREATMENT OF COTTON FROM START TO FINISH: SPECIAL PHOTOGRAPHS

TAKEN BY SPECIAL PERMISSION AT MESSRS. JONES BROTHERS' MILLS AT BEDFORD LEIGH.



1. BALES OF COMPRESSED COTTON AS RECEIVED IN MANCHESTER, AND A SMALL PILE OF COTTON THAT HAS PASSED THROUGH THE BALE-BREAKING AND BLENDING PROCESSES, AND IS ABOUT TO PASS DOWN THE TUBE SHOWN INTO THE OPENING ROOM.
2. OPENING, OR LOOSENING, THE COTTON; REMOVING IMPURITIES BY SCUTCHING (IN FOREGROUND); AND FORMING THE COTTON INTO ROLLS, OR LAPS.

3. CARDING, WHICH TRANSFORMS THE LAP INTO AN UNWISTED STRAND, KNOWN AS A SLIVER.
4. DRAWING, WHICH RUNS TOGETHER SEVERAL SLIVERS AND DRAWS THEM OUT TO THE DIMENSIONS OF ONE SLIVER, WHICH IS MORE UNIFORM IN THICKNESS THAN WERE THE FOUR, AND THE FIBRES OF WHICH ARE MORE NEARLY PARALLEL.
5. SLUBBING, DURING WHICH THE SLIVERS ARE DRAWN OUT STILL MORE, AND ARE WOUND ON BOBBINS.

6. THE SPINNING-MULE, ON WHICH BOTH WARP AND WEFT ARE SPUN.
7. WINDING THE YARN OFF THE BOBBINS ON TO WARPERS' FRAMES.
8. SIZING, WHICH PREPARES AND STRENGTHENS THE YARNS FOR THE PROCESS OF WEAVING.
9. WEAVING "SELVY.".

Many and elaborate are the processes that cotton (the "tree-wool" of Herodotus) must pass through between the time that it arrives in this country pressed by hydraulic power into bales, and the day upon which it becomes cloth. Some idea of these processes may be gained from our set of illustrations.

FROM RAW COTTON TO COMPLETE COSTUME.

AS the world-centre of the manufacture of cotton, Manchester has made its name and its products known in the four corners of the globe. During the last decade, however, it has acquired a new distinction

was acquired at Wigan, and in addition to erecting new factories they worked three collieries; while in 1848 they opened a London warehouse in Wood Street, E.C. So firmly had Rylands and Sons established their business that even the entire destruction by fire of the warehouse in Manchester in 1854 did not check the firm's progress, for the premises were rebuilt upon a larger scale, new trade departments were added, and the year's turnover exceeded all records hitherto attained. Continuing in the same primrose path of prosperity and increas-

of Bower's regattas, Oxford cloths, Galateas, Dacca flannelettes, fancy woven goods, etc., of which in all the weekly output is some 90,000 yards a week. At Heapey, near Chorley, are the works (the largest of their trade in the United Kingdom) where goods from the above factories are bleached and dyed. Here 60,000,000 yards of fabric are dealt with every year, and 2,000,000 gallons of water are used every day. At Gorton, near Manchester, Rylands make wadding, these works being the biggest of their kind in England. Fresh ground is again broken at Chorley, where the firm manufactures floor and oil cloths in its own registered designs.

All these mills pour their manufactures into Rylands' great warehouses at Manchester (the headquarters of the firm), London, and Liverpool. Here also (Rylands being merchants as well as manufacturers) come goods of every description from other manufacturers, and from all parts of the world. But the business of Rylands does not consist entirely in the sale of these goods in the bale and piece. At the Longton Works, Manchester, Rylands employ some 1200 hands in the making of costumes, skirts, mantles, corsets, underclothing, and



GIDLOW WORKS, WIGAN.

through its possession of the Rylands Library, with its wonderful treasures of rare and beautiful old books—including the Althorp Collection of Caxtons—presented to the city by the late Mrs. John Rylands as a memorial of her husband. The priceless treasures of this library make Manchester a literary Mecca for scholars and students from all parts of the world. There is a strange contrast in this position of Manchester—commercial, manufacturing, exporting Manchester—as the possessor and guardian of ancient books, the like of which can never be produced again.

ing business, the firm was converted in 1873 into a limited liability company, with a share capital of £2,000,000. On his death in 1888, the estate of Mr. John Rylands, the founder of this business organisation, was



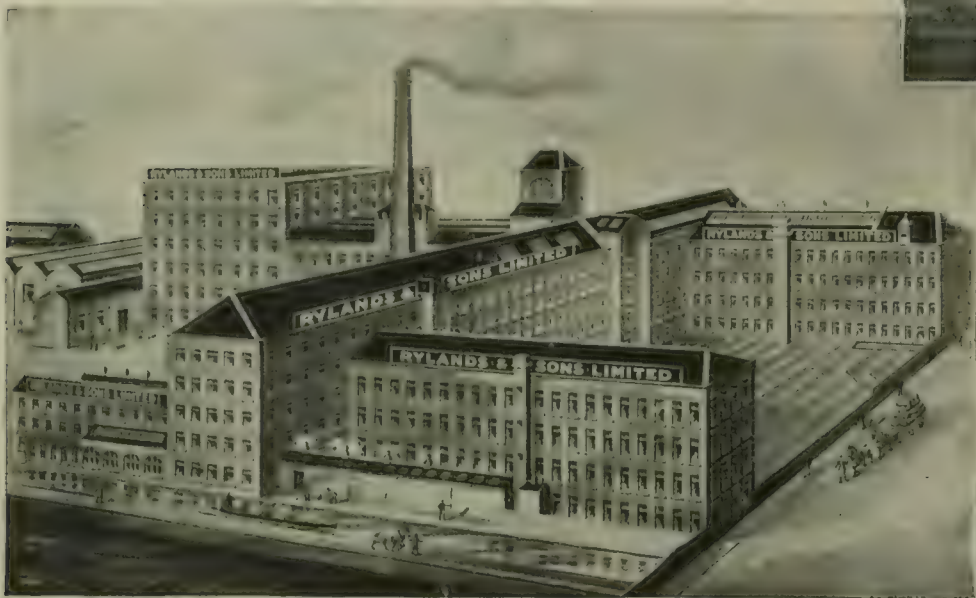
SWINTON MILLS, NEAR MANCHESTER.

valued for probate at about £2,750,000.

It is not merely the volume, but the scope and variety of the business, which gives the house of Rylands and Sons its pre-eminent position throughout the Empire as well as in

umbrellas; while at neighbouring premises furniture is made in addition to the firm's packing-cases. In London also Rylands manufacture clothing of every description at Bethnal Green, and at Commercial Road they have a shirt-factory. Finally—to end what must read like a catalogue—in works at Hulme Street and Ormond Street, Manchester, Rylands do their own lithographic and letterpress printing, and make their pattern-cards and paper boxes.

All these activities—from the raw cotton to the finished fabric, and from the finished fabric to completed costume or garment—and in addition a vast merchants' trade,

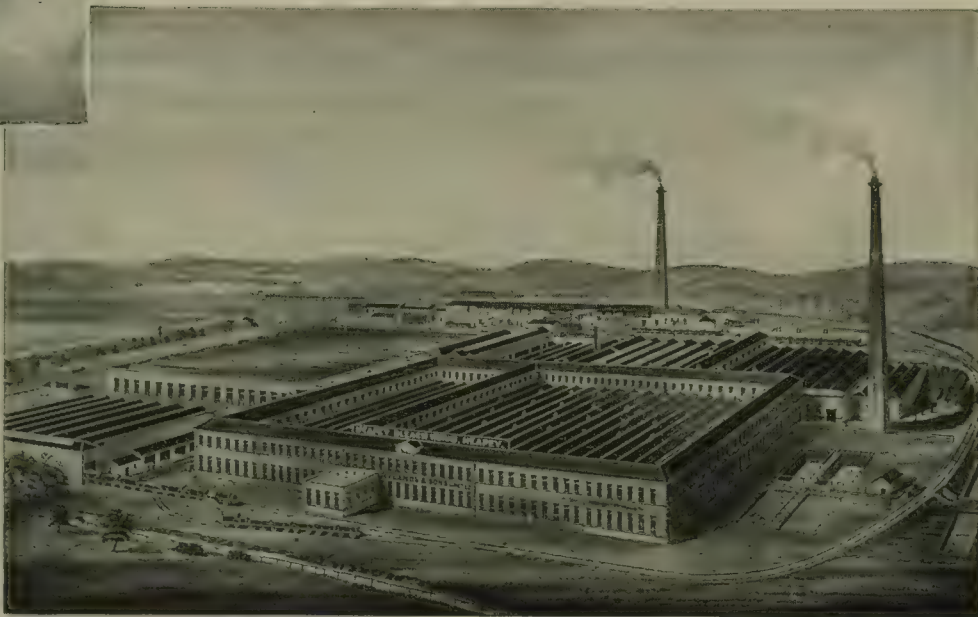


GORTON MILLS, LANCASHIRE.

Yet John Rylands was a typical Manchester man, who, by his business foresight, determination, and industry, built up from small beginnings one of the most comprehensive and one of the biggest firms in the world, and accumulated the fortune out of which the princely gift of this library was presented to Manchester. The youngest son of a small linen-manufacturer at St. Helens, John Rylands worked as a lad at his father's looms, and when still only seventeen years of age, he and his brother commenced business on their own account, with such success that a year later their father entered into partnership with them, thus establishing the firm of Rylands and Sons.

Steady increase of business led to the removal of the factory to Wigan, John undertaking the travelling for orders, while his father and brother supervised the factory. Orders began to come in for more goods than the firm's own factory was capable of producing. On the initiative of John Rylands, they decided to become merchants as well as manufacturers, and the firm opened a warehouse at No. 11, New High Street, Manchester. Here they bought and sold other manufacturers' goods as well as those from their own Wigan mill, where in 1825 they built another factory. In the same year it was destroyed by fire, but unmoved by the blow, the firm rebuilt the mill double its original size. More land

Manchester. The firm is at once manufacturer and merchant. Importing the raw cotton as it leaves the plantation, Rylands manufacture it into cloths, and further manufacture a large proportion of those piece-goods into garments and clothing. At its Gorton Mills, containing 1670 looms and employing 1350 hands, are manufactured the firm's Dacca calicoes, sheetings, twill, and jeanettes to the extent of 300,000 yards per week. The Gidlow Works at Wigan are of equal size, and turn out 350,000 yards a week of superior Dacca calicoes, silesias, and printing cloths. The Swinton Mills, employing 600 hands, specialise in the manufacture



HEAPEY BLEACH-WORKS, CHORLEY, LANCASHIRE.

involving the purchase of goods in every part of the world and their distribution to retailers—are summed up in the word "Rylands," while in its various factories, works, and warehouses the firm employs an army of eight thousand to nine thousand people.

MUSIC FOR THE MASTER: THE LUNCHEON-HOUR.

DRAWN BY S. BEGG, OUR SPECIAL ARTIST IN MANCHESTER.



THE BUSY MAN'S PLAY-TIME: GOOD MUSIC, COFFEE AND CIGAR IN A WINTER GARDEN.

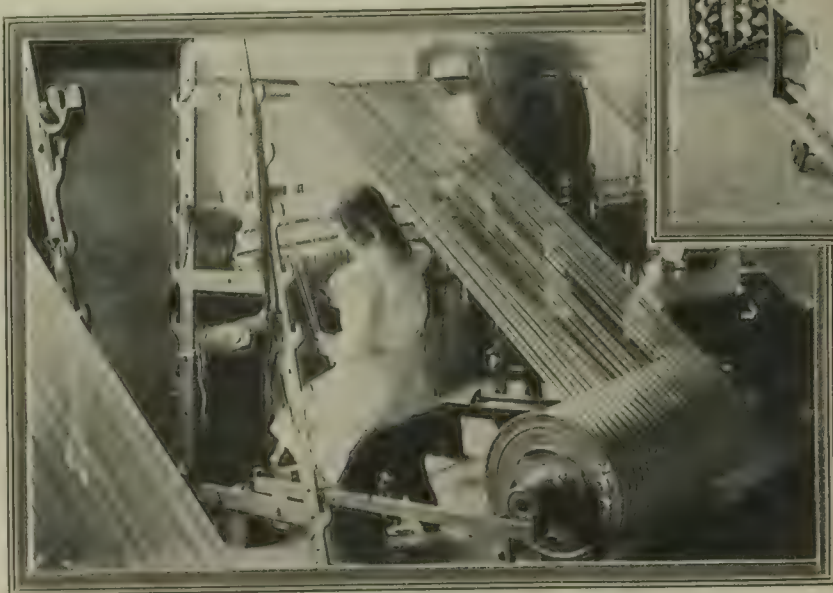
Busy as the business man of Manchester is, he is able to snatch recreation, and some of the most enjoyable moments of his day are those spent over the after-luncheon coffee and cigar, which, taken in, say, the Winter Garden of the Midland Hotel, have as companions good music and good songs—for is not Manchester one of the most musical of cities?

A RECORD OF FORTY YEARS

AMONG Manchester firms engaged in the manufacture of woven coloured cotton fabrics, a prominent place is held by the house of Burgess, Ledward and Co., Ltd., which was founded in 1869. That is exactly forty years ago, and the direction and control of the firm is to-day still in the hands of its original founders, Mr. George Burgess, J.P., and Mr. Hugh Davenport Ledward, whose partnership began when, as young men, they entered into business on their own account. In the years that have passed, by enterprise and industry, they have built up a trade for their manufactures in all parts of the world, and the vitality of the firm to-day is shown by the fact that its veteran principals are now carrying out an extension of their premises in order to cope with increasing business, and to provide permanent accommodation for departments which have so outgrown their buildings that they have been recently removed to temporary quarters in the neighbourhood pending the completion of the enlargement.

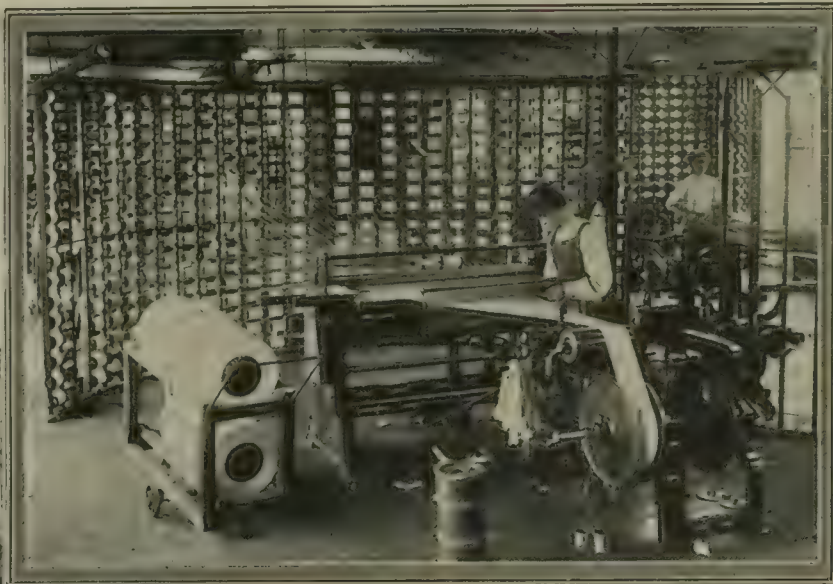
Even without that extension the Wardley Mill of the firm at Walkden employs between eleven and twelve hundred hands. Not only does the firm weave the yarn into cloth,

but it also carries out the processes of bleaching, dyeing, and mercerising of the yarn itself. The highest skill and care are devoted to the important matters of design, colour, and of the fastness of the dye, and the



PREPARING FOR THE WEAVING: DRAWING-IN.

Drawing-in, in the case of plain fabrics, at all events, is a simple, yet difficult, matter. Considerable nimbleness of hand is needed to place the warp threads, one after the other, through the eyes of the healds on each shaft, from the front to the back, or vice-versa.



FABRIC IN THE MAKING: WARPING.

Warping consists of the arranging of threads in parallel order, otherwise making a warp for the loom. Various ingenious machines now do the work that was once done wholly by hand, and thus save not only time but trouble, making a mistake practically an impossibility.

success which has been attained is shown by the high repute which Burgess, Ledward, and Co.'s goods have won for consistently high standard of quality. In addition to the

durability, and range of choice colours and distinctive patterns, are in large demand for manufacture into the tunic shirts which during the last few years have become so fashionable, and superseded the stiff-fronted white linen shirt. Though the trade of the firm lies principally in the home market, the requirements of foreign markets are also studied, with the result that a considerable export trade is done with the British Colonies, including Australia, New Zealand, South Africa, and Canada, as well as with European countries and South America.

manufacture of the ordinary fabrics common to the trade as a whole, the firm has a wide range of variety.

Among the specialities are certain cloths of exclusive design and character, produced only by Messrs. Burgess and Ledward. These include Norman Stripe, Galatea, the Golf blouse cloth, and goods of a similar style for making into autumn blouses for ladies. Another notable class of fabrics is the firm's Oxford and Zephyr shirtings, which, by reason of their pleasing texture,

THE ART THAT



TEN ACRES OF WORKS: MESSRS. J. AND J. M. WORRALL'S, ON THE MANCHESTER SHIP CANAL.

discoveries of modern times, some of the most difficult problems of which have been solved by Messrs.

COLOURS LIVE.

J. and J. M. Worrall's independent researches and experiment.

One of these factors has been the permanence of the colours. Some years ago dyers were able to ensure the stability of a black dye, but it is to Messrs. Worrall that the trade is indebted for the solution of the problems which attend the dyeing, especially of cotton velvets, in colours of the most delicate shades, which lose none of their beauty in wear, but remain permanent, or "fast-to-rubbing," in the technical phrase.

At the Franco-British Exhibition last year one of the most striking displays was that of the Worrall fabrics, in a variety of wonderful and soft colours, from royal purple to the delicate silver-grey of a dove's plumage. The beautiful tones, the lovely sheen, and the exquisitely rich appearance of these velveteens made them indistinguishable by experts from silk velvets, while the grace of the folds into which they fall, and the refinement and distinction in use were shown in the gowns and costumes made out of these Worrall fabrics by leading London and Parisian modistes. Besides these qualities of appearance, the materials are durable in the highest degree, both as regards actual wear and use of the cloth itself, and also in respect to the absolute fastness of the dye, which is secured by the Worrall process, however delicate the colour; while the comparative smallness of cost is another large consideration.



TO ILLUSTRATE THE BEAUTIFUL RESULTS THAT FOLLOW THE DYEING OF COTTON VELVETS: AN EXHIBIT BY MESSRS. J. AND J. M. WORRALL.

This exhibit was designed to show the beautiful effects that can be obtained by the use of cotton velvets made in England and dyed by Messrs. J. and J. M. Worrall.

HOWEVER beautiful and truthful a thought, it ceases to impress by very dint of constant iteration, but Ruskin's famous utterance—"As the sun colours flowers, so Art colours Life," still remains a beautiful truth. The idea of Ruskin and the men of his artistic period—Rossetti, William Morris, Burne-Jones, and others—was not that Art should find its sole medium in pictures and sculpture, but that it should be a part of the life of the people. They held—and it is true—that there is no reason why the dyer of fabrics should not be as great an artist in colour as the painter of pictures. It has been left, indeed, to the last decade to discover, or rather to rediscover, the value of colour in life—to realise that a deeper, richer tint, or a softer, gentler shade in the colour of a fabric will give it true beauty and make what was no more than a garment into a delight and joy to the eye. The crude, elemental colours of half a century ago are now capable of refinement as delicate as that with which the artist mixes his paints on his palette. That commerce has learned, and applied that lesson to dyeing, is shown by the exquisite shades in which even so difficult a textile as cotton velvets are produced by the Manchester firm of J. and J. M. Worrall, Ltd. To the experience of the hundred and forty years in business at the Ordsall Dye Works, Salford, this firm added the results of all the important chemical

THE SONG OF A SHIRT:

A SONG OF COMFORT.



NO poem, or for that matter no prose, has ever so profoundly impressed itself upon the popular imagination as Tom Hood's "Song of the Shirt," with its haunting picture of the poverty-driven sempstress and the unending—"Stitch, stitch, stitch" of her worn fingers.

MR. T. J. HOLDEN, PRESENT HEAD OF THE FIRM OF SMETHURST AND HOLDEN.

segment or part of the shirt is chalked upon it from card patterns. Then with long, lancet-sharp

shirts are ready to be made into as many finished garments.

This is the work of women and girls, who, instead of the "stitch, stitch, stitch" of the needle, have the use of the latest sewing-machines. Here is an electrically driven hemming-machine, which at

once turns down the edge of the material and

AS IT IS: THE GREAT FACTORY IN WHICH THE BUSINESS IS HOUSED.

sews it at the rate of three thousand stitches a minute. Twelve stitches go to the inch, so that sixty seconds suffice for the hemming of seven yards of cloth. Another—the post-felling-machine—is armed with two needles which place parallel stitches in the fabric and turn out the flat seam required for the legs of pyjamas. In the button-holing machine the acme of mechanical ingenuity seems to be reached, for here the needle in the short time of six seconds automatically sews the buttonhole, which, after its edges are hemmed, is then cut by a descending knife. Having finished the work, the machine automatically stops until started again by the girl when she places another wrist or neck band to be button-holed. Then the garment passes to another girl who operates the machine which sews on the buttons. Slipping the front or wrist or neck band of the shirt under the needle and placing the button in position she starts the machine. Up and down flies the needle unerringly in and out of each hole in the button, which in less time than it takes to describe, is securely sewn on. Handled by an expert girl the machine sews on the buttons at the rate of nearly five hundred per hour.

So completely equipped is Messrs. Smethurst and Holden's factory with the finest machinery and labour-saving devices that actual handwork is reduced to little more than the sewing of the trade-mark name-labels on the garments. Toil at the needle is superseded by the feeding of material into machines which automatically carry out the work for which each is designed. The cutting of each size and style of shirt is so standardised that the actual manufacture of the garments is no more than the sewing together of the different parts, which is needed before placing them under the needle. Indeed, the girls are forbidden to cut the material served out to them. The necessity for any such alteration is a proof of carelessness on their part. Their only legitimate use for scissors is to cut the cotton thread when the sewing-machine needle has done its work.

Second only to this triumph of organisation, with its results in the high and uniform quality of the goods, is the variety of the garments made—from tennis-shirts with detachable collars to heavy blue-serge shirts for Canadian backwoodsmen; and from miners' characteristic working garments or engineers' slops, to shirts for tiny boys, or the latest designs in soft-fronted flannel shirts with double cuffs, or the preparation of bunting for street decoration on the occasion of the King's visit to Manchester.

By their constant introduction of new styles, Messrs. Smethurst and Holden have thus created as well as met the changed requirements of men the world over, and built up a business connection which makes it one of the largest firms of manufacturers of shirts in the kingdom.



AS IT WAS: THE LITTLE SHOP IN WHICH THE BUSINESS BEGAN.

tured under similar pitiless conditions is a fact to which Government Blue-Books are witness; but on the other hand, the factory of Messrs. Smethurst and Holden, in Manchester, shows the manufacture of shirts carried on under model conditions, which Tom Hood, could he visit the works, would recognise as the ideal alternative of the sweating system which he so poignantly pictured.

Instead of that attic in a decrepit slum-house, there is the large building with big, airy rooms, well lit and ventilated, awash with the rattle of numberless sewing, button-holing, and button-sewing machines, in whose bright, healthy girl and women workers it is impossible to recognise the industrial successors of the "woman weary and wan." Instead of the few pence a day which that slave of the needle received for her toil, these modern sempstresses earn wages rising to and exceeding thirty shillings a week, according to their skill and industry. To sum up the difference, the one word "organisation," represents the transition between the two pictures—a transition which one may still see for oneself to-day; for against the centralised manufacture of shirts, as conducted by Smethurst and Holden in their own factories in Manchester and at Crewe, there are still firms which put out their cloths and flannels to be sewn and made into garments in the workers' own homes, under almost indescribable conditions of poverty, misery, and dirt.

Down to almost recent years Manchester shirtings, etc., were sent away to Glasgow, Belfast, and London for manufacture into the actual garments. But reason showed the advantages in cost of carriage alone, if the textiles which Manchester produced in the piece were converted into clothing in the same town. One of the earliest firms to realise this opportunity of creating a new local industry was that of the late James Smethurst, who commenced business as shirt-manufacturer in 1875.

From a small commencement the firm has grown to its present prominent position, and has extended its trade to the production of garments in styles and varieties which were unknown thirty years ago. Change in masculine tastes has created a large trade in pyjamas during the last ten years, while the increased athleticism of the nation is reflected in the hundreds of dozens and scores of styles of cricket, football, and tennis shirts which the firm now makes. To its large home trade the firm (which is strictly manufacturing, and deals only with wholesale houses) has added a large export trade and the execution of contracts for the British and Colonial Governments.

The evolution of a shirt begins in the cutting-room, where the bales of flannel or cotton shirting are unrolled and arranged in long layers by suspending the edge on a line of hooks. The resultant flat pile of cloth, made up of as many as seventy-two—sometimes ninety-six—layers, is placed on the cutting-table, where each



DECORATIONS FOR THE KING'S VISIT: MAKING UNION JACKS.

knives the cloth is cut along the marked lines, and the component parts of six or eight dozen

is needed before placing them under the needle.



SIXTY AT A BLOW! CUTTING FLANNEL SHIRTS.

As many as sixty layers of the flannel are cut at once. The knife is guided by means of metal slots in the cutting-table.

CAPS AND THE MAN.

DESPITE all that is said about the slavery of the present generation to hide-bound social customs and conventions, it must be admitted, at least as regards dress, that in comfort and the fitness of things, if not always in picturesqueness, we have improved upon the habits of our fathers. There is no occasion to go back to the time when to be in the fashion it was necessary for a gentleman to torture himself by getting into skin-tight buckskin breeches. In the less essential matter of headgear, one may learn from veterans of the cricket field—or, at least, see in old sporting prints—how etiquette required men to field and bat, and actually to bowl, in tall beaver hats. Wearing such hats, the Oxford and Cambridge crews rowed the first University Boat Race.

Down, indeed, to the last twenty or thirty years easy and comfortable cloth caps were worn only by boys, while men who occasionally sought relief from the burden and dignity of a hat assumed Glengarry bonnets. If golf, motoring, and our modern engagement in sport generally have done nothing else, they have at least made us sensible and comfortable in our headdress. The change is one well within living memory. Mr. Jacobson, the head of the Clarence and the Imperial Hat Works, Manchester, recalls that when he commenced the manufacture of caps in 1863 it was a trade which employed scarcely twenty men in the

of cap patterns are cut in cardboard and passed to the men for marking on the bales of cloth or tweed out of which the caps are cut. These materials are not remnants, but complete bales of the best Scotch, Irish, and Yorkshire tweeds, of which the firm buys and uses £40,000 worth a year; while the amount of silk

by girls at electrically driven sewing-machines, of which there are 500 in the factory. The body of the cap requires eight seams, while another operation is the making of the peak, which consists of two pieces of cloth between which canvas is inserted to give stiffness. The pressing of the peak quite flat is done by an ingenious ironing machine (one of Mr. Jacobson's numerous inventions). Elsewhere a machine is printing the linings with the trade-name of the cap or the name of the retailer. The making-up of the lining is another of the many component operations which finally produce the cap, finished and complete.

The manufacture of sun and pith helmets is another and notable department of Messrs. Jacobson's business. Formed out of cork, straw, pith, or other material, they receive their shape by being moulded under hydraulic pressure in iron "basins" or moulds. What variety this means may be gathered from the fact that for cutting and finishing the brims the firm

has two thousand different knives or models in stock. It is curious to observe how the sun-helmets differ in

shape and appearance according to the country for which they are destined. The helmet favoured by the Australian differs, for instance, in shape as well as weight, from that required by the South African; while the climatic conditions of Singapore, Mandalay, and India have brought about the

manufacture of types of helmets specifically designed for each of those countries. These local differentiations are not only met, but have been studied on the spot by the head of the firm, whose travels have taken him to every corner of the globe. One result of this is Messrs. Jacobson's large and increasing export trade, especially to European countries, Australia, New Zealand, Canada, the United States, South Africa, the Gold Coast, and Asia generally. At the last two Expositions in Paris, as also at the Brussels and Turin Exhibitions, the firm's caps and helmets have been awarded gold medals. The small factory opened in 1863 has now grown into two large works—the Clarence and the Imperial—equipped with specially invented machinery for the manufacture of caps, helmets, and ladies' hats. In addition, Messrs. Jacobson (now a private limited company) have a warehouse in Basinghall Street, London.



SHAPING HATS AND HELMETS: THE HYDRAULIC PRESSES AT WORK.

The hats and the pith helmets are moulded in iron "basins," or moulds, by hydraulic pressure. It is interesting to note that the particular firm under discussion has no fewer than two thousand different knives or models in stock for the cutting and finishing of brims alone.

used for lining represents an additional £15,000. The bale of cloth is unrolled and folded layer upon layer in a square pile. The different parts of the cap are chalked out from patterns on the top-most layer, and the necessity of planning out the cloth with the utmost nicety is shown by the fact that the waste of merely a quarter of an inch of cloth on each cap amounts to seven yards for 1000 caps. And the output of the firm is 5000 dozens of caps per week.

The duly marked-out pile of cloth is then taken to the cutting-machine. It is a revolving steel band-knife, which shears through the fifty or sixty layers of cloth, as the cutter moves and turns the bale against the knife. Each segment and part of the cap are thus cut out by the hundred at a time, for these electrically driven machine-knives will cut a bale of as many as forty to fifty layers of cloth.

Then follows the sewing together of the different segments of cloth into the cap proper. It is done

A CAP-MAKER AT WORK.

whole of the city, while the workpeople now employed by this firm alone number 700 skilled men and women. From being a trivial trade the manufacture of caps has become a highly specialised industry, employing skilled workpeople and much intricate and ingenious machinery.

For the apparent simplicity of an ordinary tweed cap is deceptive. To follow its evolution out of a great bale of cloth to the finished article is to realise the exactness which its manufacture demands. Almost numberless patents for shapes and designs of caps and for processes of manufacture have been taken out by Messrs. Jacobson, while many of the machines are the individual invention of the founder of the firm, Mr. Nathaniel Jacobson, J.P.

The initial care is, of course, the style and shape of the cap. New designs are constantly being produced, and these in their range of varying sizes, materials, and colours make the number of different caps manufactured by this firm run into many thousands. For each shape and size



A FEW OF SEVEN HUNDRED SKILLED WORK-PEOPLE: A BUSY SCENE IN ONE OF THE WORK-ROOMS.

As recently as 1863 under twenty men were employed in cap-making in Manchester; now Messrs. N. Jacobson, Limited, alone employ seven hundred skilled men and women. The output of the firm is 5000 dozens of caps a week, and added to these are many hats and pith helmets of various sorts.

THE ALLIANCE OF A GREAT UNIVERSITY WITH A GREAT HOSPITAL: THE KING AND QUEEN IN MANCHESTER.



THE OPENING OF THE NEW MANCHESTER ROYAL INFIRMARY: THE ARRIVAL OF THE KING AND QUEEN AT THE BUILDING.



ROYAL RECOGNITION OF MANCHESTER UNIVERSITY: THE KING RECEIVING AN ADDRESS.

While on his way to the new Manchester Royal Infirmary, the King stopped outside Manchester University, and received an address read by the Vice-Chancellor, Dr. Hopkinson. In the course of his reply to this, his Majesty said, "I am glad that in Manchester the cause of learning and research is united with that of practical benevolence, and I doubt not that the fortunate alliance of a great University with a great hospital will continue, as heretofore, to confer inestimable benefit alike on those who seek in them the fruits of advancing knowledge and enlightenment, and those who resort to them for relief from suffering and distress." At the Infirmary, the royal carriage was drawn up at the entrance to the out-patients' department. In the carriage with the King and Queen were Princess Victoria and Mr. Haldane, who was the Minister in attendance.—[PHOTOGRAPHS BY TOPICAL AND BY L.N.A.]

CHINA: ANCIENT & MODERN.



SOLD, WITH A COMPANION, FOR £60 16s.: A "Solon" PLAQUE.

NO visitor to Manchester can fail to be attracted by the magnificent display of fine-art china and superb cut-glass exhibited by Messrs. H. G. Stephenson, Ltd. The extent of these premises is equalled only by the variety and choiceness of their wares, which even the eighteen large windows, representing a frontage of about 160 ft., are not sufficient to display in full, for entirely new and

magnificent specimens of china, glass, and pottery are displayed in the show-rooms above and below the ground level; while the sub-basement forms an immense warehouse covering some 1600 square yards. Merely as store-keepers to the Manchester Midland Hotel, their stock is enormous. In addition, this Manchester firm is called upon to supply table-pottery and china for the Egyptian State Railway and the South African Railways.

There are also some beautiful examples of the finest English and Continental china on the one hand, and on the other delightfully effective and artistic designs in pottery at a very low price. What probably is the most notable feature of this extensive exhibition is the wonderful collection of ornamental goods, among which are some choice pieces destined sooner or later to take their places in art galleries and museums. Among the Worcester vases is a very beautiful pair which figured in the Worcester Exhibit at the Anglo-French Exhibition. These fine specimens of the potter's craft are illustrated above, and the same pair was

photographed by Sir Benjamin Stone for the permanent record of the Exhibition. One of the several very fine

specimens of "Solon" were displayed by Messrs. H. G. Stephenson is also illustrated here. This vase stands twenty-two inches high, and the delicacy of its design and beauty of workmanship indicate a steady increase in its value, for there is now very little "Solon" were left in the hands of dealers.

As an instance of this rising appreciation of modern pottery, it is notable that, at the sale of the William Bemrose collection at Derby last March, two small Solon plaques (one 8 in. by 4 in., and the other 7 in. by 4 in.), illustrated above, were sold for £60 16s.

Among this veritable Golconda of fine china, exquisite pieces of Doulton, Coalport, and Crown Derby also claim attention. Here also is a fine pair of Minton vases, painted by W. Mussil, the beauty of which attracted especial attention at the time of that artist's death. Nor can omission be made of the Doulton Vase recently sold for £100, regal in its grace and exquisite colouring. In addition to the headquarters in the Barton Arcade, the firm also possesses show-rooms in St. Ann's Square, where the connoisseur will spend a happy and envious time in the inspection of wonderful ancient and modern china, including some very fine specimens of old blue-and-white Kangi.

At any time at any of their establishments, Messrs H. G. Stephenson will always be pleased to receive visitors and afford them the fullest opportunities for inspection.



BEAUTIFUL EXAMPLES OF THE POTTER'S CRAFT: A FINE PAIR OF WORCESTER VASES AND A SPLENDID "Solon" VASE.

The pair of Worcester vases illustrated figured in the Worcester Exhibit at the Anglo-French Exhibition, and were photographed by Sir Benjamin Stone for the permanent record of the Exhibition. "Solon" ware is getting rarer and rarer, and very little of it is left in the hands of the dealers.



SOLD, WITH A COMPANION, FOR £60 16s.: A "Solon" PLAQUE.

THE REIGN OF DAINTINESS.

ONE of the little things which certainly count in life is the pocket-handkerchief. Its absence makes for entire misery. Its presence, too, may annoy, if the fabric of the handkerchief is unwieldy in size and of harsh new linen, elaborately stiffened to display an artificial gloss. Our grandfathers gloried in such spacious handkerchiefs of violent colours. But now that snuff has gone out of fashion there is no occasion for such lordly articles. Fashion to-day runs to comfort, and to the requirement of a handkerchief of so soft a fabric that it can be pressed into the smallest compass and not bulge the pocket or sleeve in which it is carried. Among women, also, the reign of daintiness has limited the size as it dictates the utmost delicacy in fabric and design.

These latter-day requirements have been met—even if they have not been actually created—by the production of a new fabric, specially manufactured for use as handkerchiefs. This fabric, out of which Excelda handkerchiefs are made, is of the softest character, avoiding the stiffness of linen, on the one hand, or the fluffiness of cotton on the other. It has the delicacy and lustre of silk with the refreshing touch of fine cambric. It is so fine that it goes into the smallest compass, and yet its unique constitution makes it highly absorbent. It is not only durable in use, but it retains its characteristic lustre even after repeated washing. Since the first introduction of this fabric ten years ago, Excelda hand-

kerchiefs have won an ever-increasing circle of patrons, and are now known and used all over the world.

At the Franco-British Exhibition one of the most striking features of the Textiles Section was the display

of Excelda handkerchiefs in 700 different varieties and designs, for which, and the beautiful and unique character of the fabric itself, a gold medal was awarded. Even this display did not comprise the full variety of the Excelda handkerchiefs, of which 1500 designs could have been shown, not two of them alike.

In the prevailing fashion for handkerchiefs with a border of dainty design and colour (a fashion to which Royalty has lent the stamp of its approval) the Excelda handkerchief may be said to have led the way, and in the choice and variety of its products it is still without rivals. For the present season a new fine white Excelda handkerchief, unique in lustre and softness, is also being put on the market.

The soft tints, beautiful colours, and charming designs in which Excelda handkerchiefs are made, indeed defy enumeration. Every taste and every requirement are met, from plain white to a bandana pattern, while the Excelda also offers the most charming styles in the coloured-border handkerchiefs, now so fashionable, and Excelda handkerchiefs are also manufactured in colours and designs to meet, for instance, Australian or South African tastes. All that it is necessary to do is to ask for "Excelda," and to see that each handkerchief bears a little paper ticket with that name.



A MONARCH IN THE REIGN OF DAINTINESS: THE EXCELDA HANDKERCHIEFS EXHIBIT AT THE WHITE CITY (1908).

The handkerchiefs were awarded a gold medal. They are made of a new fabric, of the softest character, which has neither the stiffness of linen nor the fluffiness of cotton. Indeed, it has the delicacy and lustre of silk, with the touch of fine cambric.

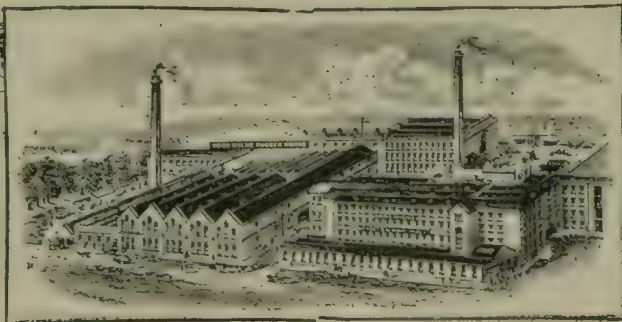
THE HEEL OF ACHILLES & THE HEEL OF THE MODERN.

THE experience of ancient Greece discovered the sensitiveness of the human heel and crystallised it in the legend of Achilles. To modern and inventive Lancashire belongs the honour of creating a heel, or rather, a heel-foundation, at once graceful and invulnerable. The heel of Achilles possessed the grace but not the safety of the well-shod foot of to-day—a foot shod, not with iron, but with a rubber heel. The ancient saying ran, "I fear the Greeks when bearing gifts." The Greeks had no gift in their keeping like the Wood-Milne rubber heel, otherwise the swift-footed Achilles would not have perished, but would have lived to fight and conquer.

Even in Lancashire, prior to 1896, the heel was a tender point with men. In the England of Elizabeth, of the Stuarts, of the Georges, of Victoria, down to the year mentioned, walking exercise, under the best circumstances, must have been, and was, except for the most indefatigable, a somewhat irksome necessity.

Not long ago, Mr. H. G. Wells gave an ingenious lecture on "The Misery of Boots." That address was, in some sense, a parable; but the agony of boots, of rigid, irresponsible boots, has been, and always will be, a vivid reality, unless the heels themselves possess a resiliency which will lighten the labour of walking. That leaden-footed time for the walker ceased some thirteen years ago, when the Wood-Milne rubber heel was invented. Like most of the useful, great inventions of the world, Mr. Wood's was a simple one. It occurred to him that instead of tough leather, or of tough leather tipped with clumsy iron, some new material, at once springy and durable, might be found as a comfortable cushion between the foot and the ground. That substitute was found in indiarubber, one of the most lasting and elastic of fabrics.

Mr. Wood's original idea was the simple and obvious plan of substituting for the last layer of leather on the boot-heel a layer or shod of rubber. In spite of its seeming simplicity this idea constituted a revolution in the boot trade as startling as the revolution in the cycle trade when the velocipede gave way to the low bicycle rimmed with a soft rubber



THE CENTRE OF A GREAT INDUSTRY: THE WOOD-MILNE RUBBER WORKS.

tyre. Mr. Wood's invention, too, began as a revolution, continued in evolution, and eventuated in the Wood-Milne revolving heel.

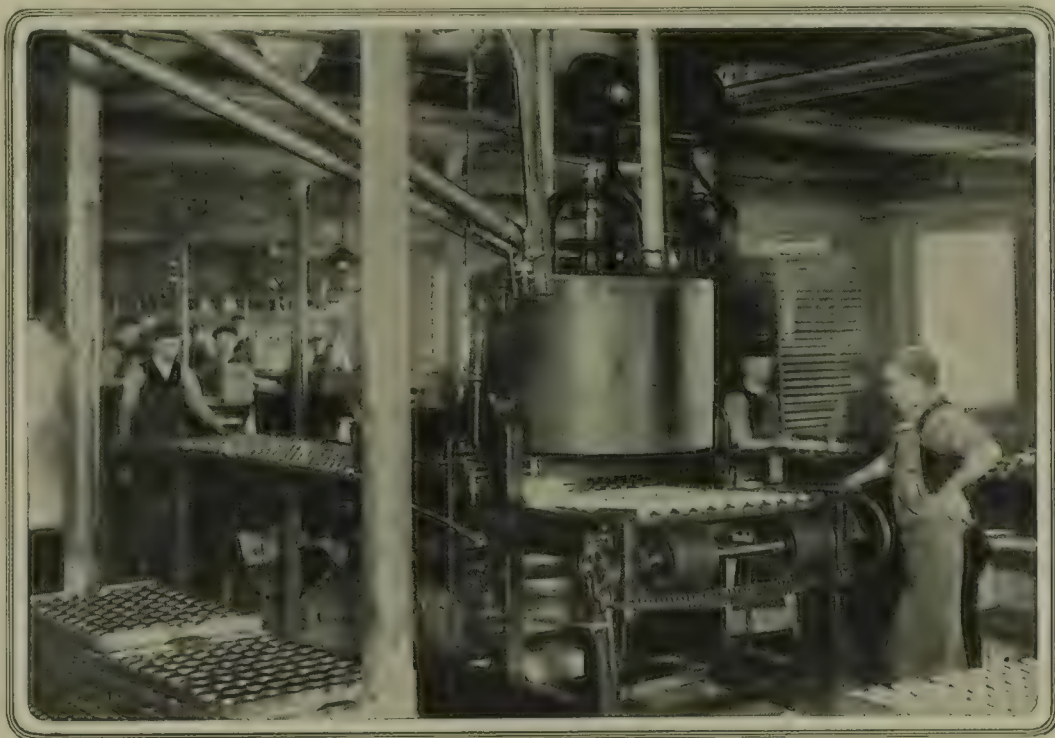
The first attribute of the revolving heel is that it wears evenly all round. It automatically adjusts itself, so that no undue pressure is put on any particular point of surface, thus preventing that partial over-wear which

minds — and feet — of the world that its purchases of rubber for conversion into its celebrated boot-heels make it one of the half-dozen biggest consumers of rubber in the United Kingdom. In fact, it uses over seven tons of pure rubber per week, while the foundry for the making of the iron moulds in which the various designs of Wood-Milne heels are cast employs a small army of men. The heels are made in an infinity of designs, to suit the most fastidious tastes, and in every case they possess the virtue of being invisible. Another interesting feature of the firm's works is the machine which, out of sheet-tin, stamps out the metal centres for the heels at the rate of 40,000 an hour. The firm's output of rubber heels varies

from 750,000 to 1,000,000 per week, while recently it has added a new department for the manufacture of Wood-Milne boot-polishes. Outside Great Britain the firm has customers in Germany, France, Russia, Spain, Italy, the Low Countries, Morocco, and Mexico. It has depôts in London, Paris, Belfast, Johannesburg, Milan, and Buenos Ayres.

During the recent years of acute industrial crises all the world over the Wood-Milne Company's import of raw rubber and output of the finished article in the shape of heels have not diminished, but continued unabated. This is the most convincing proof that could be offered of the real and concrete value of the speciality they offer. An advertising "boom" may maintain an article in the market for a number of years, but the public will finally settle the matter for themselves and refuse to be persuaded of its much-protested virtues. The public are still constant to the rubber heel devised by Mr. Wood thirteen years ago. Lancashire has always been a county of "Many Inventions," to quote one of Mr. Kipling's book-titles. The Wood-Milne production is a credit to the

county of creation and to "Proud Preston," the centre of its output. The "Wood-Milne heel" is not the "heel of Achilles." It is the protection and not the downfall of its wearer.



FOURTEEN THOUSAND TINS AN HOUR! A MACHINE THAT FILLS TINS OF "SHOESHINE."

results in one being down at heel—the most deplorable end of man or woman. It is impossible for a man to "pursue the even tenour of his way" with ragged and distended boot-heels. The revolving boot-heel thus

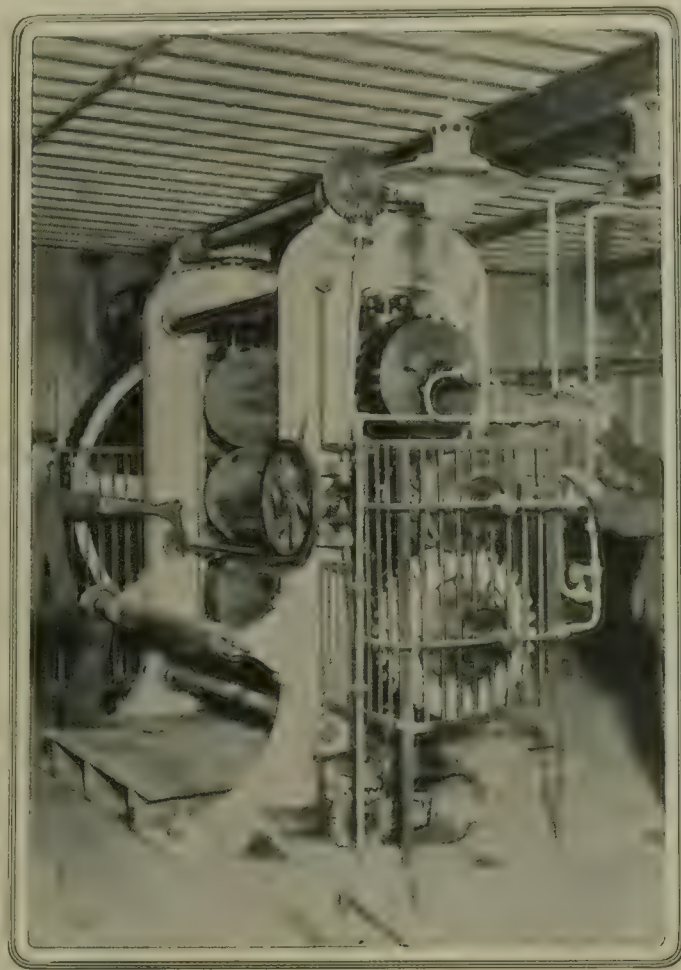
made for grace, but it made even more for economic use. Our ancestors used to assert "There is nothing like leather," but we and our contemporaries know that there is something, and that that something is rubber. If a census were taken of boots, as well as of their wearers, it would undoubtedly be found that the mortality of those boots which disdained the aid of rubber was appallingly high as compared with their rubber-heeled brothers, that they are much more often in the hands of the healer, and that they seldom attain to the easiest-fitting middle age. This even holds of the seemingly robust iron-shod boot of boyhood, which seems destined to last for ever, but which requires three times as much doctoring as its revolving rubber fellow.

The simile of the boot and the doctor again has realised itself in actual fact. Doctors are in general, and of necessity are, a conservative class. They set their face against all remedies which have no foundation in science. But doctors have long since recommended patients suffering from nervous or spinal troubles to wear rubber heels. To the stout man they are an especial benefit as well as comfort. The reason is, of course, obvious. In the case of very highly strung people the sense of vibration is painfully acute, and the act of continued walking on hard ground communicates a vibration to the body and the nervous system which is rectified by means of a resilient tread. That resilient tread, it has been discovered, is most easily produced by means of the quiet and buoyant rubber heel, which tempers the obdurate pavement to the consistency of a smooth old lawn.

The firm of Wood-Milne, Ltd., of Preston, the originators of and the largest manufacturers in this industry, has so impressed these truths upon the



CUTTING THE FAMILIAR CROSSES: A METAL-STAMPING MACHINE, USED IN THE MAKING OF RUBBER HEELS, WHICH STAMPS FORTY THOUSAND AN HOUR.



RUBBER HEELS IN THE MAKING: AN ELABORATE CALENDERING MACHINE WHICH FLATTENS THE RAW RUBBER THAT IS AFTERWARDS USED IN THE "HEELS."

AN OLD ART REVIVED.

ONE of the most striking features of many buildings erected during the last few years has been the increasing use of glazed tiles for the facing of exteriors as well as for interior decoration. One cause of this has been the rapid deterioration of bricks and stone under the corrosive action of the smoke-laden atmosphere of cities—a corrosion to which

glazed tiles are impervious—while equally a deeper and more general appreciation of beauty has effected notable improvements in the decoration and appointment of the house. At once a cause and a result of this revived use of glazed tiles, architectural faience, and mosaic, are the skill and study which have been devoted to their production. In this restoration of what had practically become a lost art, a prominent part has been taken by Messrs. Pilkington, who, in conjunction with Mr. William Burton, established works at Clifton Junction, Manchester, in 1893, for the manufacture of tiles and architectural faience. Science and the chemical knowledge of to-day were brought to bear on the old methods by which the incomparable Persian, Spanish, and Italian tiles were made. By study and experiment, the causes which produced certain results or defects were discovered; the composition of different glazes determined, and processes so exactly carried out that the potter can rely on ninety per cent. of a batch of lustre tiles or pottery emerging true to

standard from the firing, while the old-time potter, with his rule-of-thumb methods, was pleased to have only ten per cent. of his work unspoiled.

But with this application of the scientific method to glazed and coloured faience and pottery, has gone hand in hand the work of artists. Secrets of wonderful old glazes and lustres have been recovered, and

of mother-of-pearl or a red glow changing into gold as the light falls upon it. Original chemical research has also devised new and exquisite colours with deep or delicate shades. In this way the scientific potter thus perfectly carries out the designs and ideals of the artists, whose share in the production of the work is acknowledged by the revival of the old custom where every man signs the tile or vase which he decorates, just as a painter signs his picture.

This principle alone gives a rare individuality to Pilkington ware, of which some magnificent specimens of heraldic decoration and other subjects have been produced in glaze and lustre tiles, with exquisite colour-effects. Within the last four or five years the production of pottery has been added to that of tiles and architectural faience. Following the same method, equal triumphs have been won in the making of pottery, whose delicate or rich colours (many of entirely new shades), beautiful decorative treatment, and fine outlines have already won such recognition that several specimens from the Pilkington exhibit of vases and tiles at the Venice Exhibition of International Art have been purchased for the Museum of Art and Industry in Rome, while two Grands Prix—one for tiles, the other for pottery—were awarded Messrs. Pilkington at the Franco-British Exhibition last year.



THE MAKING OF TILES AND ARCHITECTURAL FAÏENCE: THE FACTORY IN WHICH PILKINGTON WARE IS MADE.

are being used in the manufacture and decoration of exquisite tiles and pottery, which have the sheen

the other for pottery—were awarded Messrs. Pilkington at the Franco-British Exhibition last year.

THE BIGGEST ALUM FACTORY IN THE WORLD.

THE importance of alum in many manufacturing processes may be illustrated by the single fact that, unless writing and printing paper were treated with alum, they would be spongy substances, into which ink would sink as it sinks into blotting-paper. Yet, despite this and other important uses—in dyeing, in the manufacture of pottery, paints, and the preparation of leather—alum was, down to sixty years ago, still produced by the same primitive and expensive methods of the Middle Ages, when the Pope claimed and enforced for the Holy See a monopoly in the preparation of this valuable salt. But in 1875 a new scientific method of extracting alum from coal-shale was discovered by Mr. Peter Spence, who two years later established in Manchester the chemical works for the working of his invention. It revolutionised the trade by producing alum of the greatest purity at half its previous cost. The immediate result was a great increase in the use of alum in various trades and industries, while from that comparatively small beginning Peter Spence and Sons have become the largest manufacturers of alum in the world, and the activities of this firm have made Manchester known as a centre

of chemical industry throughout the globe. There is not a bazaar in the East where Spence's Alum is not on sale.

To its original production of alum, the firm added in 1875 its invention of Alumino ferric, which, though not

of the same degree of purity as crystal alum, is for many industrial purposes equally serviceable at only half the cost. Alumino ferric has also

proved itself to be of the greatest efficacy in the purification of drinking-water. The addition of only 1½ grains to a gallon makes turbid and impure water clear and potable, so that the use of alumino ferric in India, South America, South Africa, and elsewhere has been followed by greatly improved health and a considerably reduced death-rate.

In Great Britain alumino ferric has become an important factor in the purification of sewage, which it converts into an entirely innocuous effluent.

Another form of alum prepared by this pioneer firm of Peter Spence and Sons is pure Sulphate of Alumina, which has come to be extensively used for many industrial purposes. This firm also has succeeded in so cheaply producing Titanium Potassium Oxalate that it has come into use in the dyeing and staining of various kinds of leather; while more recently Peter Spence and Sons have secured patents for the production and use of Titanous Chloride and Titanous Sulphate, which "strip" or remove colour from yarn on piece-goods most effectively.



LIKE GREAT BLOCKS OF ICE: PART OF THE ALUM-BLOCK, OR FINISHING, HOUSE.

Alum is of the greatest importance in numerous manufacturing processes. Without it, for instance, writing and printing paper would be but spongy substances, into which ink would sink as it sinks into blotting-paper.

ART FOR THE MAN: ON SATURDAY NIGHT.

DRAWN BY S. BEGG, OUR SPECIAL ARTIST IN MANCHESTER.



THE WORKING-MAN'S PLAYTIME: A VISIT TO THE MANCHESTER CORPORATION ART GALLERY.

Fortunately for the working man of Manchester, the City Art Gallery is kept open late—until nine p.m.—and many take advantage of the fact. In this gallery many artists of note are represented, and it contains such famous pictures as Ford Madox Brown's "Work" and "Jesus Washing the Feet of Peter," Gainsborough's "General Wolfe," Holman Hunt's "The Shadow of Death" and "The Scapegoat," Lady Butler's "Balaclava," Peter Lely's "Lady Whitmore," and Joshua Reynolds's portraits of Admiral Lord Hood and Lady Anstruther.

A FOOT-NOTE OF IMPORTANCE.

WHEN Thackeray, in "Pendennis," wrote of the old Major's regret at being compelled to dismiss his impertinent valet, he pictured the precise old dandy as thinking "how he should get a new man, how devilish unpleasant it was to part with a fellow to whom he had been accustomed, how Morgan had a receipt for boot-varnish which was incomparably better and more comfortable to the feet than any he had ever tried." It would have been well if that reflection on the comfort, as well as the necessity, of boots being regularly and properly polished, had been borne in mind by the author of the proverb that "There is nothing like leather." It is a statement which requires the corollary: "provided it is daily and perfectly cleaned."

That Major Pendennis's reflection realised the truth of this is shown by the way he bracketed his impossible servant's skill in boot-cleaning with his genius for making mutton broth and his genius for nursing his master when ill. As a matter of actual social history, it is recorded that Lord Petersham, one of the greatest Regency dandies, invented and himself prepared for use on his boots a special kind of blacking which he declared would eventually supersede all others. But the preparation of the perfect blacking and polish for leather demanded more scientific knowledge than dandies had

the time — if the desire — to acquire. In this small aspect, as in big industries, Manchester can claim a

since won universal patronage and commendation. The unique degree with which this Diamond Oil

Blackening retains its nature and keeps moist in all climates has built up so large a trade that factories have had to be purchased in London, in addition to those established in Manchester. One characteristic quality of this blacking is that it bestows on the boots or leather treated a polish which does not quickly dull, but, on the contrary, remains brilliant for hours or days. For box-calf and glacé kid leathers, now almost universally worn, this old-established firm prepares special polishes, in the composition of which only the finest and purest materials are used. In addition to the ordinary tins, these polishes are — by what must be called a stroke of positive genius — also put up in collapsible metal tubes, with which, by turning the key at the base, the exact quantity can be forced out, and the emptied end of the tube is flattened and rolled up by the key, so that none of the contents can remain or be wasted. Further, Messrs. Berry manufacture a jet-black permanent dye, which enables brown or any coloured leather to be polished with Box Calf Cream or ordinary blacking; while Berry's Harness Cream and Brunswick



MAKING THE MAKING OF GOOD LEATHER: PACKING BLACKING AT MESSRS. BERRY'S.

pioneer part, for as long ago as 1848 William Berry commenced the manufacture of a blacking which has

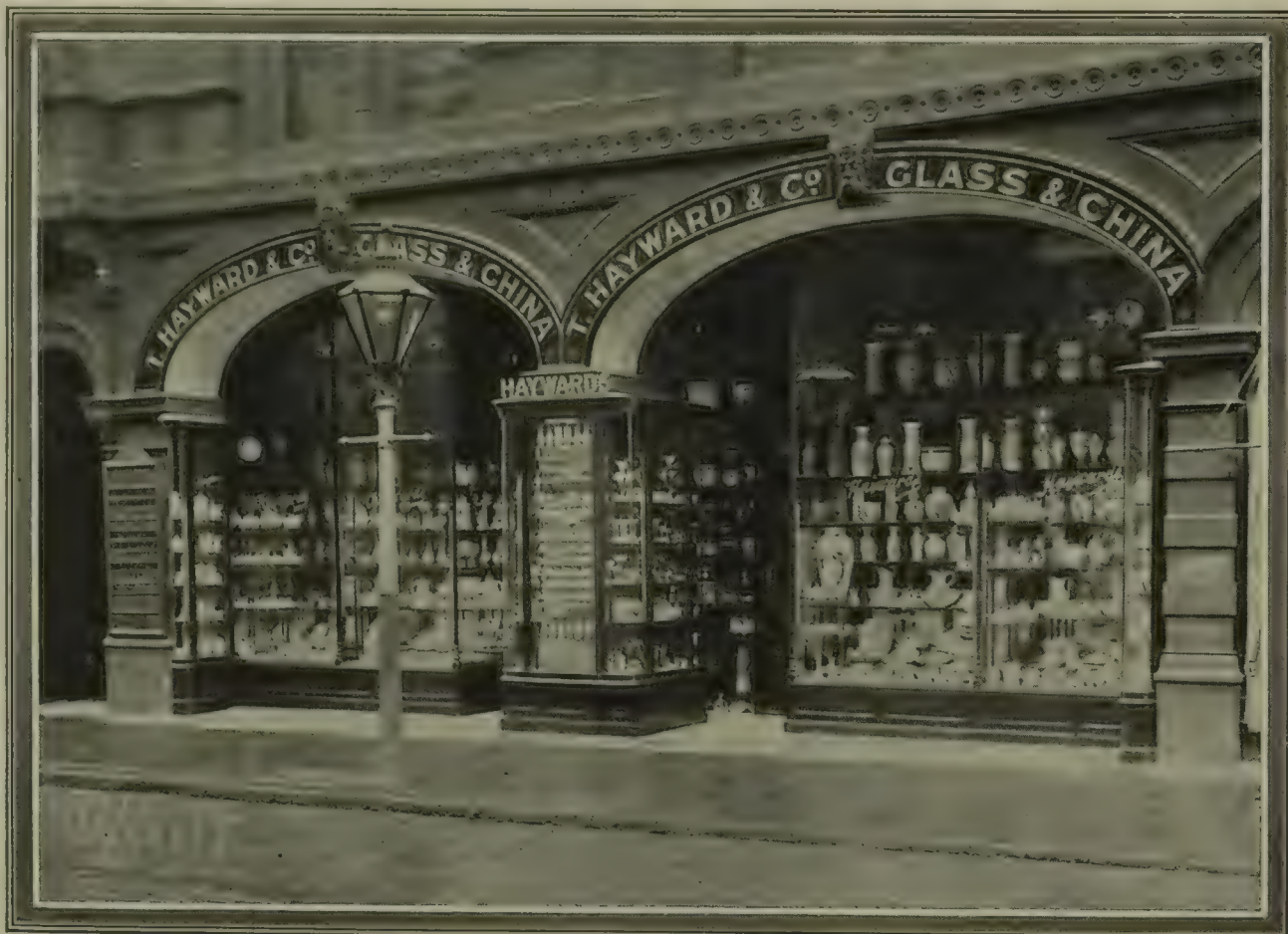
Black are preparations which, for their respective purposes, are known and in demand all over the world.

A HOUSE OF CHINA.

AS men have been known to judge a man by the contents of his wine-cellar, so women are reputed to judge a woman, not by the company she keeps, but by the delicacy and beauty of the glass and china which she puts on her table. Even the mere male, however, in his passage through Manchester could not fail to be struck by the display of fine china-ware, as varied as exquisite, exhibited in what is one of the handsomest shop-fronts in Manchester — that of Hayward and Co., at 64-66, Deansgate. Founded in 1811, this firm has a steadily progressing record, based on the governing dictum of its management that, in its legitimate line of trade, it is impossible to ask for anything which cannot be instantly supplied. From old-world Venetian glass to the latest Pilkington art pottery, from the china-wares of Belgium and Bohemia to those of Bristol and Burslem Doulton, it offers the most entrancing array. To walk through the show-rooms is a delightful experience to the connoisseur in fine china and glass, and the arrangement of what one may call the different "schools" of pottery allows a striking

and invaluable comparison between their differences and variations in style. Here are Old Spode and Staffordshire

Minton, hand-made Bristol and Wemyss ware, and fine specimens of the Oriental potter's craft are opposed by the delicacy of Royal Dresden or more opulent Royal Worcester, with magnificent selections of Coalport and Crown Derby. That distinctly modern schools of pottery are applying to table china the lessons, of simplicity, graceful outline, and charming colour, is shown by the Foley Art China, of which Messrs. Hayward and Co. hold a large stock, while the display of real hand-cut-glass is as extensive as brilliant. So distinctive, indeed, is this firm of Hayward and Co. that its supply of glass and china-ware for hotels extends not only to London but all over Great Britain, while it exports largely to South Africa and all the British Colonies. Among the products of famous Continental potteries are very fine and varied specimens of Italian and Florentine ware, showing those distinctive and characteristic styles at their best, while Germany is represented by some notable pieces of terra-cotta and exquisite old Saxony.



A HOUSE OF CHINA: THE OUTWARD AND VISIBLE SIGN OF A FAMOUS BUSINESS.

RUBBER & LEATHER: THE STORY OF A GREAT INDUSTRY.



fully realised and applied. From the range and the importance of its uses this might almost be described as the Age of Rubber, and its commencement may definitely be set down to the year 1854, when the process of vulcanising rubber was discovered. That new development, with all the possibilities which it opened up, was readily realised in Manchester, with the result that to-day the manufacture of rubber for an infinite number of industrial and personal uses is not least amongst the trades of the district.

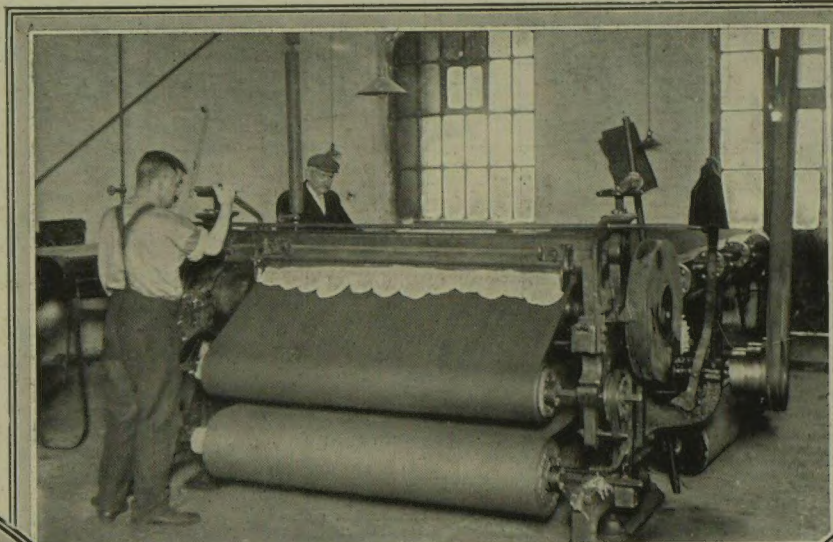
Before that, in 1866, a small business in the manufacture of bags and other leather goods was modestly established in Manchester by a young man from London. The venture was beset by sore difficulties. But with the outbreak of the Franco-German War there came to Manchester emissaries from one of the contending nations to place an order for the manufacture of a great number of knapsacks. Delivery was required at the rate of 500 or 1000 knap-

South American or African forests, to its final transformation into the finished waterproof-coat, tennis-shoe, or insulated wire or cable for electric transmission. In its crude state rubber has the shape and size of a solid Rugby football, which, though apparently a conglomerate mass, is in reality built upon a series of separate layers, each of which represents the

inner sides of which are rubbered and pressed together in a sort of sandwich. Ladies' macintoshes are usually only single-texture. Through the scrupulous care with which the rubber is prepared by the Frankenburg processes, all this firm's products (for which the trade-mark of "Distingué" has been registered) are free from the disagreeable odours too often associated with the use of rubber-proofed garments.

These cloths as manufactured by the firm are also made up and sewn into the finished coat, cloak, rug, etc., and this department alone employs a large staff of skilled cutters, tailors, and sempstresses.

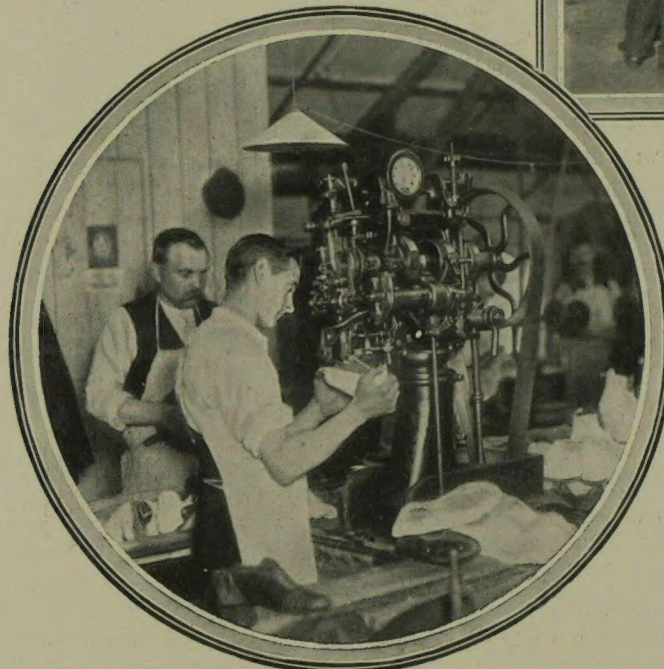
For the manufacture of shoes or electric cables, the rubber is prepared in a different way from that required for waterproofing. Instead of being reduced to a solution, it is ground with special ingredients into a thick dough. As this is passed through different calendering machines, so it is rolled out in sheets of almost infinitesimal thinness, or in layers of the thickness and pattern required for the soles of shoes. It is an interesting sight to watch the gradual build-



MAKING CLOTH WATER-PROOF: SPREADING MACINTOSH DOUGH ON THE FABRIC.

sap drawn at one time from the rubber-tree. Here it is noteworthy that rubber, which cost about three shillings a pound eighteen months ago, is to-day priced in the market at over six shillings a pound.

Soaked in hot water, freed from impurities, and reduced from stiffness to a more plastic state, the rubber is passed to the crushing-machine, from the steel rollers of which it emerges in sheets, resembling a rough bath-glove or towel. For waterproofing cloth, to be manufactured into macintoshes, carriage-rugs, etc., the rubber, mixed with certain powders, is dissolved in naphtha reduced to a thick, creamy paste. The cloth on which this is coated is bought by Frankenburgs in the grey, dyed according to their requirements, and proofed by themselves. As the roll of cloth is slowly drawn through heated steel rollers it receives a thin layer of the dissolved rubber, which permeates every fibre of the fabric. Time after time the process is repeated, until the cloth is thoroughly



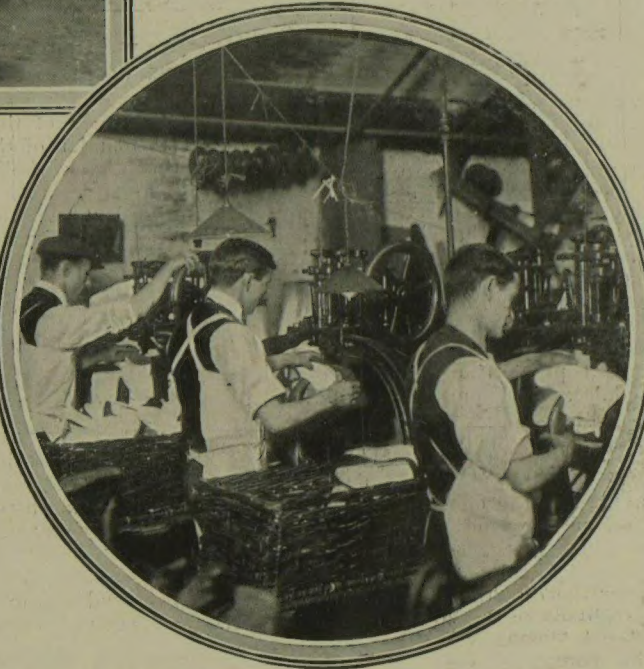
A WONDERFUL MACHINE INVENTED BY A NEGRO: THE CONSOLIDATED LASTING-MACHINE, WHICH NAILS THE UPPERS OF RUBBER-SOLED SHOES TO THE INNER SOCKS, AND REGISTERS THE NUMBER OF NAILS USED.

sacks a day. Firm after firm refused the order on such terms; but young Frankenburg, who had already won the reputation of being able "to carry anything through," accepted the contract, and by employing shoemakers and tailors as well as saddlers, he turned out and delivered the knapsacks by the stipulated time.

From that day the record of the firm of Frankenburg has been one of steady progress and increasing business. In particular, foreseeing the possibilities (more than amply justified) which lay in the preparation of rubber, the firm added to leather the manufacture of waterproof cloth and garments. To-day, by extension and growth, Frankenburg and Sons hold a remarkable position as makers of rubber waterproofs, while scarcely less notable are the firm's manufactures of electric cables, rubber shoes, rain-proof cloths, etc., as well as the manufacture of the leather goods which formed the firm's original business.

At the large Greengate Works in Salford, rebuilt in 1887 and since enlarged, one may witness every process in the preparation of rubber, from its entrance into the factory as it was drawn from the trees in

rubbered. Heavy waterproofs, such as men usually wear, are formed by the union of two such rolls of cloth, the

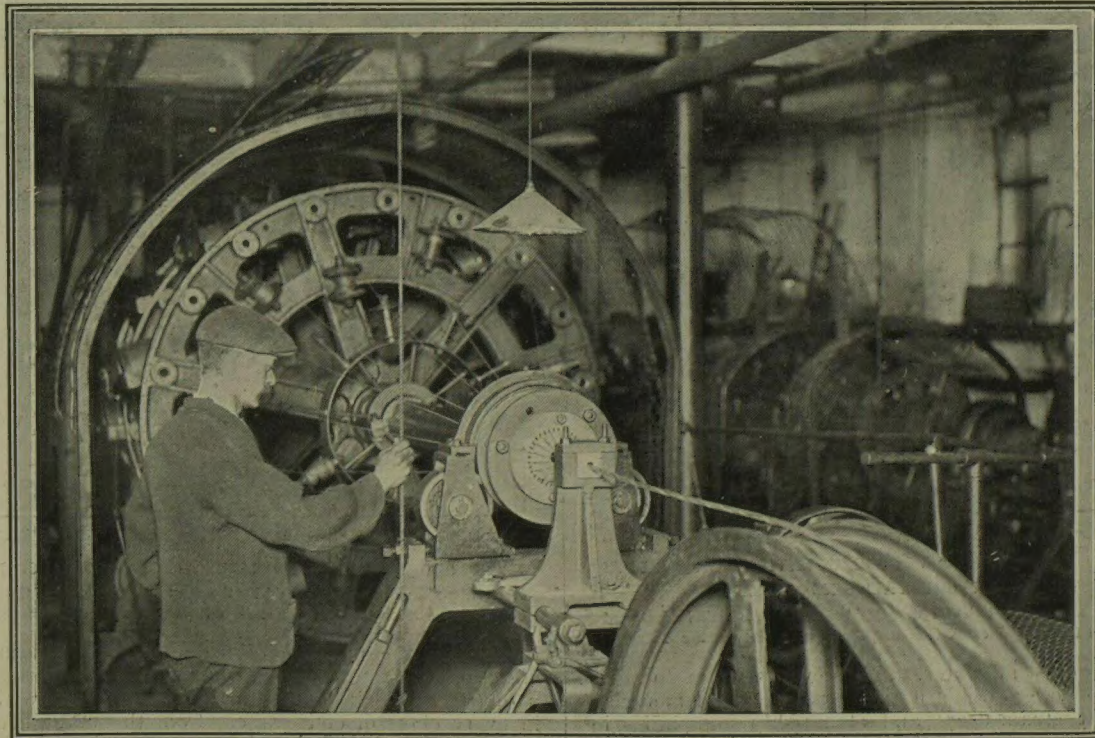


PLACING RUBBER SOLES ON CANVAS SHOES; SEWING UPPERS TO THE SOLES BY MEANS OF THE INGENIOUS BLAKE'S STITCHING-MACHINE, ONE OF THE LAST OF THE MANY OPERATIONS.

ing up of a rubber shoe under the fingers of a girl. First the flat canvas shape of the upper part is fitted on and bound down to the last by a strip of thin rubber. Then follow the incorporation of the insole, of the filling, of the heel-piece, the coverings for the back and instep, the toe-piece, and finally the corrugated sole itself. It is all done in five minutes or less, and what remains for the completion is only a coat of varnish and vulcanisation by heat in an oven.

Of the stranding of wires into a cable and their successive wrapping with ribands of rubber by ingenious machinery, down to the final testing of their electrical resistance, there is not space to tell. Nor can more than reference be made to the leather and other departments, and the laboratory where scientific supervision is exercised over every process and product of the Greengate Works, where in all some 1200 hands are employed; while in the public as well as industrial life of the borough a prominent part has been played by the founder and head of the firm, Mr. Isidor

Frankenburg, who for the three years 1906-07-08 was elected Mayor of Salford.



MAKING THE TWISTED METAL CORE OF A RUBBER-COVERED ELECTRIC-LIGHT CABLE: STRANDING A CABLE. Each thread that has to be twisted into the cable passes through one of the holes seen in the rim of the big wheel at one end of the machine, then passes through the smaller holes in the small wooden wheel in the centre; and from this passes, in stranded form, on to the big drum in the right foreground.

FOUR EXAMPLES OF MANCHESTER INDUSTRY.

Victories of Peace.

In the history of the researches of man, human effort has never been entirely wasted. Even though the Philosopher's Stone has never been discovered — nor is it ever likely to be — the centuries of enthusiastic and fanatical endeavour to attain it led to discoveries which have practically built up the art and science of chemistry. Thus, when in 1859 the world-famous firm of F. C. Calvert and Co., of Manchester, undertook the production of a purer carbolic acid for the manufacture of dyes, they had, perhaps, little idea that, over and beyond the accomplishment of that purpose, their success in producing pure carbolic would mean the revolutionising of surgery, medicine, and sanitation. But that, in fact, was the case. The extraction of pure carbolic acid on a commercial scale from coal-tar by Messrs. Calvert enabled Lord Lister to perfect that system

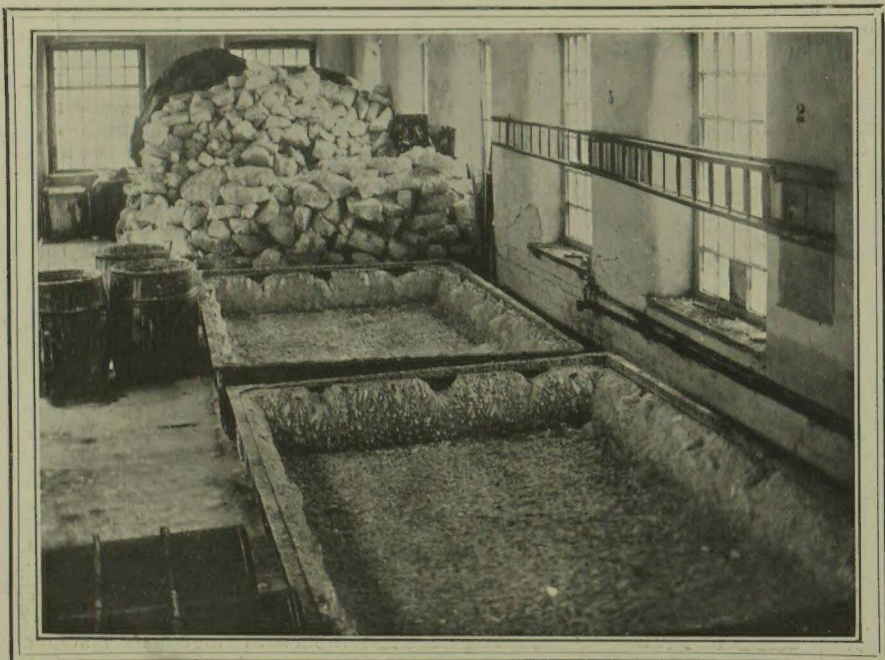


"HEALTH" IN THE MAKING: ONE OF THE CARBOLIC SOAP PACKING-ROOMS.

of antiseptic surgery which has saved its hundreds of thousands of lives on the battlefield and in the operating-theatre. The founder of the firm, the late Dr. F. C. Calvert, F.R.S., readily perceived that this pure carbolic acid might be splendidly employed in a preventive way as well as a curative one as a disinfectant, and his efforts in that direction led to an order from the Board of Trade that carbolic acid should be adopted as the standard disinfectant to be used on passenger and emigrant ships. Imitations of Calvert's Disinfectants are numerous, and most of them adopt the carbolic-acid formula, having for its base "coal-tar constituents," but in the interests of the public it ought to be pointed out that the value of such imitations is much depreciated by their low percentage of the essential carbolic and cresylic acids which constitute the excellence of the Calvert preparations, which have been awarded over a hundred gold and silver medals and diplomas at exhibitions all over the world.

Clear as Crystal.

The presence or excess of certain chemical constituents in water which is used for conversion into the steam of an engine has the effect of corroding the boiler or so incrusting its plates that extra heat, and so more coal, are required for getting up steam. In the study of this problem and the discovery of its remedy, a leading part has been played by the firm of Crystal and Co., Ltd., of Rochdale. Established twenty years ago, it has, under the direction of Mr. William Kenworthy, studied the problem of neutralising the water for steam-generation purposes and evolved the making of boiler-fluid,



MAKING A PREPARATION DESIGNED TO PREVENT BOILER-INCORUSTATION, OR REMOVE SCALE: COOLING-TANKS, SHOWING THE CRYSTALLISING PROCESS.

We illustrate one of the numerous processes in the making of the "Noncrus" boiler-fluid, which is designed to neutralise acids in water, and prevent them forming incrustation or pitting the plates of the boiler.

which neutralises all impurities and acids in water, and prevents them forming incrustation or pitting the plates of the boiler. This unrivalled boiler-fluid has been used for years by some of the largest steam-users and steam-ship companies in the world, and its efficacy has been the same on vessels in home waters, the Mediterranean and the Pacific, the Black Sea, or the Atlantic. The same high record of results has been achieved in the use of the Company's boiler-preparations in manufacturing establishments. In each case an analysis is made of the water used, and a neutralising fluid is accordingly composed which as exactly meets the needs of the firm as a physician prescribes for the illness of a patient. The laboratory is one of the largest and best equipped in the country, while there is a magnificent plant of retorts, purifiers, and labour-saving appliances, designed by the Managing-Director, for the preparation of the compounds. A recent production of this enterprising firm is "Sease," which prevents the water from corroding the radiator in motor-cars, and assists in maintaining a free circulation.

Goethe's Last Words.

In a physical sense, at least, Goethe's dying demand for "more light" was one which the invention of gas and electric lighting granted to the world at large, while little less than a revolution in artificial illumination has been brought about during the last decade by the use of incandescent gas-mantles instead of the old-fashioned fish-tail burners. As a firm

engaged in the preparation of Ramie, the Indian and Chinese grass of remarkable strength, and its manufacture into cloth, the Ramie Company was called upon to weave incandescent "stockings" out of Ramie for other firms who carried out themselves the chemical processes which make the fibre network glow without burning in the gas. From this preliminary part in the manufacture of gas-mantles, the Ramie Company has evolved the "Zeimar Mantle," which is manufactured at the Victoria Mills, Bredbury, near Stockport. From the initial process of preparing the Ramie fibre, to the weaving of the little "stockings" and their treatment with Thorium nitrate (which the company manufactures for itself) the Ramie mantles are made throughout by the firm. The Zeimar is thus the first "All-British" mantle. It is to this comprehensive organisation, primarily created by Mr. Warburton, the Managing-Director of the Ramie Company, that the Zeimar mantles owe their distinctive and unique qualities. After twenty-four hours' burning, two cotton mantles showed a shrunk and broken condition, while the Zeimar mantle of three-ply Ramie fibre was absolutely intact after six hundred hours' burning.



THE WEAVING OF RAMIE, A GRASS FROM INDIA AND CHINA, INTO INCANDESCENT "STOCKINGS": SEASONING GAS-MANTLES.

The firm prepares the Ramie fibre, and indeed completes the mantles without any outside aid. Ramie is a grass of exceptional strength from India and China.

From Sedan-Chair to Motor-Body.

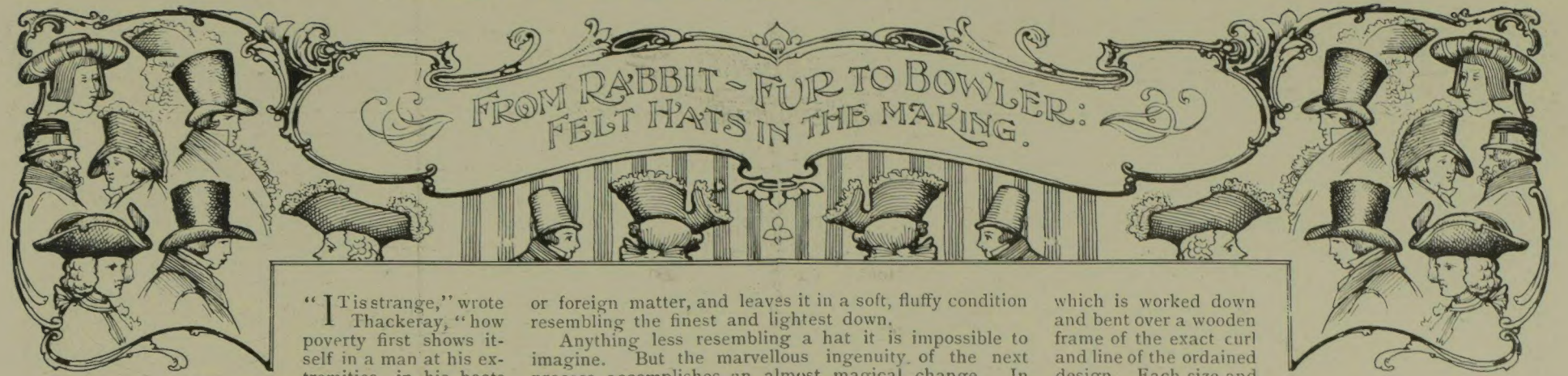
No more than one hundred and fifty years ago Manchester was so small, though so busy a place, that to go from one extreme of it to another was a matter of but a few minutes' walk. For a long time, therefore, the sedan-chair kept the hackney-coach and the private carriage at bay, so that Joseph Cockshoot's establishment in business as a carriage-builder, in the year 1782, might be said almost to mark the great extension of Manchester and Manchester's trade at that time. There is a curious contrast in the thought that, while the first business of this firm may well



FROM SEDAN-CHAIR TO MOTOR-BODY: MESSRS. J. COCKSHOOT AND CO.'S PREMISES.

It is interesting to note that, while the first business of this firm might well have been the building of sedan-chairs, it now largely occupies itself with the construction of motor-bodies. It makes every type of vehicle.

have been the building of sedan-chairs, it is now largely occupied with the construction of motor-bodies, while to-day, as throughout the intervening century and a quarter, "Cockshoot's Carriages" have been the standard of supreme excellence in every class of conveyance, from the magnificent old State-coach for the Judges on Assize, to less pretentious but not less luxurious private broughams, landaus, and dog-carts or governess-cars. The unimpeachable workmanship, fine design, and character of its vehicles have given the firm a reputation excelled by none in the carriage-building trade throughout the kingdom. The firm's large new premises in Great Ducie Street constitute an ideal coach-building establishment. That the firm, though established so long ago, has kept itself abreast of every modern development is shown by its large motor-garage and repair-shops for cars, and by its adaptation of its long experience in carriage-building to the building of motor-bodies for chassis. Messrs. Joseph Cockshoot and Co., Ltd., are also the sole agents in Manchester and district for the Renault and Rolls-Royce cars, and their show-rooms possess every requisite for travel by road.



and his hat." In particular, that truth applies itself to the head-covering, for, as Oliver Wendell Holmes gaily rhymed—

Wear a good hat; the secret of your looks
Dwells with the beaver in Canadian brooks:
Virtue may flourish on an old cravat,
But man and nature scorn the shocking hat.

or foreign matter, and leaves it in a soft, fluffy condition resembling the finest and lightest down.

Anything less resembling a hat it is impossible to imagine. But the marvellous ingenuity of the next process accomplishes an almost magical change. In the central box of a hopper-like machine, a big copper cone revolves. From above, the soft, fluffy fur is fed down in a shower, which clings like grey snow on the revolving cone, while jets of water and steam spray on the fur mat and plaster it into a complete covering. In a minute or two the cone is covered to the depth of $\frac{1}{8}$ inch with this matted and saturated fur, which is now become felt. The machine is stopped, the cone taken out, and the workman dexterously peels off the felt covering. Being built up on the cone, it is also cone-shaped, and looks like a gigantic sugar-loaf bag. It is the embryo hat.

In this first state it is a soft, wet, felt cone, measuring twenty-four inches by thirty. Rolled up, it enters upon a series of processes, during which it is kneaded first by hand and then by machines in the planking-shop, so that ultimately, the felt is so consolidated and shrunk together that it measures $10\frac{1}{2}$ inches by 14 inches. In bringing it down to this size and strength of felt, it will pass as many as three hundred times

which is worked down and bent over a wooden frame of the exact curl and line of the ordained design. Each size and style of hat has its own frame, as it has also its iron mould, wood block, etc., and every alteration in a season's styles and shapes calls for an entirely new set of moulds. At each stage and process the hats are carefully examined, and all faulty ones rejected. Finally there comes the sewing of the riband round the brim (which is done by hand in the case of hard hats, and by



FEEDING THE CLOSE-CLIPPED RABBIT-FUR INTO THE MACHINE THAT CLEANSSES IT.

The first step in the making of a felt hat is the cleaning of the rabbit-fur by means of a machine that removes all dirt and foreign matter from it, and leaves it soft and fluffy as the lightest down.

The verselet holds as true to-day as when it was written, though the change in circumstances and conditions have shifted that burden of respectability from the Canadian beaver to the rabbit of Australia and other countries. It is an interesting matter to follow stage by stage the evolution of a little pile of soft, fluffy rabbit-fur into the finished hat—whether a light-coloured Homburg or a raven-black hard hat of the bowler shape. Nowhere can this building of a hat (for literally a felt hat is built up) be better followed than at the Spring Bank Hat Works of Messrs. Sutton and Torkington, in Stockport, for hat-making is not the least of the trades of which Manchester is the centre; and this firm in particular enjoys a world-wide reputation both for the completeness with which its factory is equipped and for the production of the highest quality felt hats.

The general idea about such a hat is that it is cut and made, or moulded, out of a sheet of felt, so that amazement comes when one is shown bales and heaps of rabbit-fur and is told that it is out of this that hats are made. Felt, indeed, is not so much a primary material, but felting is the process by which wool, fur, or hair is matted together and formed into a close fabric. For hats, rabbit-fur is the material used. The first step in its treatment is the thorough cleansing of the close-clipped fur in a machine which winnows it of all dirt

through the planking-machines, which, with their jerky thumping action, skilfully take the place of kneading

machines in the case of soft hats), the tying or sewing on of the hatband, the insertion of the lining and the leather band inside the hat. These finishing details vary greatly, for Messrs. Sutton and Torkington's world-wide trade calls for careful adjustment to many tastes and ideas of many countries.

Soft-felt hats are made in essentially the same way, save, of course, that they escape the hardening bath of shellac, and so retain pliability. Finally the hats are carefully packed in cardboard boxes, and these again in big wooden cases. Consignments for Sydney and Melbourne are taking back to Australia in splendidly made and finished hats the very rabbit-fur exported from Australia as Messrs. Sutton and Torkington's raw material. In South Africa, Canada—indeed, in every British colony, as also in Japan and South America, the firm has a large and increasing trade, while during the last year or two it has built up a steadily growing export to the

Continent of Europe. Originally established in 1871 (they began business with only a few employés) the firm has created as well as met a demand for high quality felt hats, so that extension after extension of the premises has been necessary, until the present factory is many times the original size and one of the largest in the trade, employing about 600 hands, many of whom have been with the firm almost from its commencement.



FROM RABBIT-FUR TO FELT HAT: ALL GRADES OF FELTING.

by hand, doing the work not only more quickly but with greater regularity of result.

The hat, now a brownish grey felt cone, like a clown's cap—is smoothed by being placed against rapidly revolving sandpaper. It is stiffened by being dipped in shellac, dyed black by immersion in a vat, and then passes on to be shaped. Warm water gives the felt pliability again and the man pulling out or "easing" the

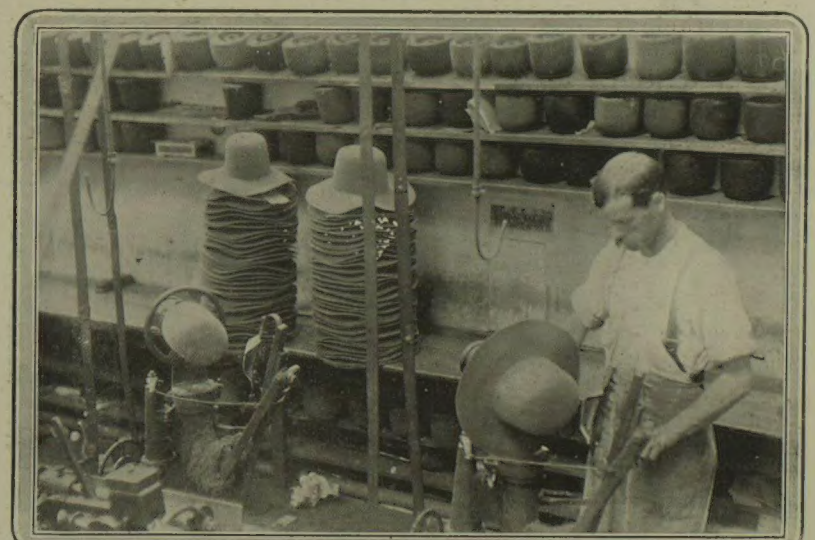
apex of the cone draws and smooths it down on to a wooden block, of the exact shape and size the hat is required to be. As it dries it takes its destined shape and firmness as regards the crown, while the brim is still flat and untrimmed. Then it is "blocked" in an iron mould by hydraulic pressure, and another machine fines down the surface of the felt and gives it softness and smoothness under the touch of a rapidly revolving sandpaper ball. Automatically the machine stops when it comes to the centre of the crown.

The body of the hat is now practically finished. Then comes the shaping of the brim,



FASHIONING THE FASHION: SHAPING HATS.

After the felt hat in the rough has been stiffened by being dipped in shellac, it is made pliable again by being dipped in warm water. Then it is shaped on a wooden block.



NEARING THE END: FELT HATS BEING FINISHED.

The finishing includes the shaping of the brim, the sewing of the riband on the brim, the fixing on of hat-bands, and the insertion of the lining and the leather band inside the hat.

ALLIANCE ASSURANCE COMPANY IN MANCHESTER.

How Manchester in the early days of its commercial development, as now in its present pre-eminence as the Capital of the Cotton World, was connected with the finance and business of the whole country, and even of Europe, is illustrated by the fact that it was at Manchester that the Rothschilds first established themselves in England. While his brothers were sent by their father to set up businesses in Berlin, Vienna, Naples, and Paris, Nathan Meyer Rothschild was sent in 1797 to Manchester to buy and consign cotton fabrics for the German market. Opening an office or warehouse in Moseley Street, Manchester, and purchasing piece-goods for cash payments, he so firmly established himself on English ground that seven years later, in 1804, he took out letters of naturalisation as a British subject. By that time the firm had become Rothschild Brothers, with an unassuming warehouse in Lloyd Street, Cooper Street, Manchester. In 1805 Nathan Rothschild removed to London, where, during the crowding events of the Napoleonic wars, the house assumed international as well as national importance.

But that early connection with the fortunes of the Rothschilds in England was not forgotten by Manchester, and when, in 1824, Nathan Meyer Rothschild joined leading London bankers and merchants in the formation of the Alliance Assurance Company, there was so well remembered in the northern town that the issue of the prospectus was followed by a very large number of applications for shares from Manchester. The matter was so notable that it furnished the subject of a contemporary cartoon (now very rare and reproduced on this page) depicting a coach laden with gold arriving from Manchester at New Court, St. Swithin's Lane, London, where the Alliance Assurance Company had opened its offices. But London itself and more neighbouring towns had so eagerly applied for shares in the undertaking that it is one of the ironies of commercial history that the capital had been subscribed and the lists closed before the Manchester coach had arrived.

Nevertheless from its foundation to the present day Manchester has had close business connections of mutual benefit with the Alliance Assurance Company. The personnel of that first board of directors, indeed, commanded confidence, the five presidents of the Company being such distinguished and still remembered persons as John Irving, Esq., M.P., Francis Baring, Esq. (afterwards Sir Francis Baring,

Bart.), Samuel Gurney, Esq., Moses Montefiore, Esq. (afterwards Sir Moses Montefiore, Bart.), and N. M. Rothschild, Esq. (whose grandson, Lord Rothschild, is the Chairman of the present Board of Directors).

In the original prospectus of the Company, published in 1824, it is stated that "the object of this Institution

than has ever yet been realised, owing to the extensive connexions, both foreign and domestic, of the parties with whom the Company originates, and the large capital to be invested therein; by means of which the Company will be able to avail itself of every opportunity beneficial to its interests, and to defray its expenses with the least possible diminution of profits." That object and that expectation have been more than realised by the steadily increasing growth and scope of the Company's business during the last eighty-five years.

In Manchester in particular the position of the Alliance has been always firmly secured, and received the fullest degree of confidence and patronage from that great and astute community of business men. Down to 1864, the Company was represented in Manchester only by agents, but in that year a branch office was established in Cross Street, with the late Mr. Murray Gladstone as Chairman, and Mr. Robert Lewis, now the General Manager of the Company, as secretary.

One of the first effects of this progressive policy of the Alliance in Manchester was the incorporation of the Lancashire business of the Western Insurance Company, which had one of its head offices in the city.

In addition to its already large business, the Alliance thus acquired still wider connection among manufacturers in Lancashire and the mercantile community of Manchester. New offices, of which a drawing will be found on this page, were erected in 1894 at the corner of King Street and Cross Street, and the present Secretary of the branch is Mr. William H. Hoyle.

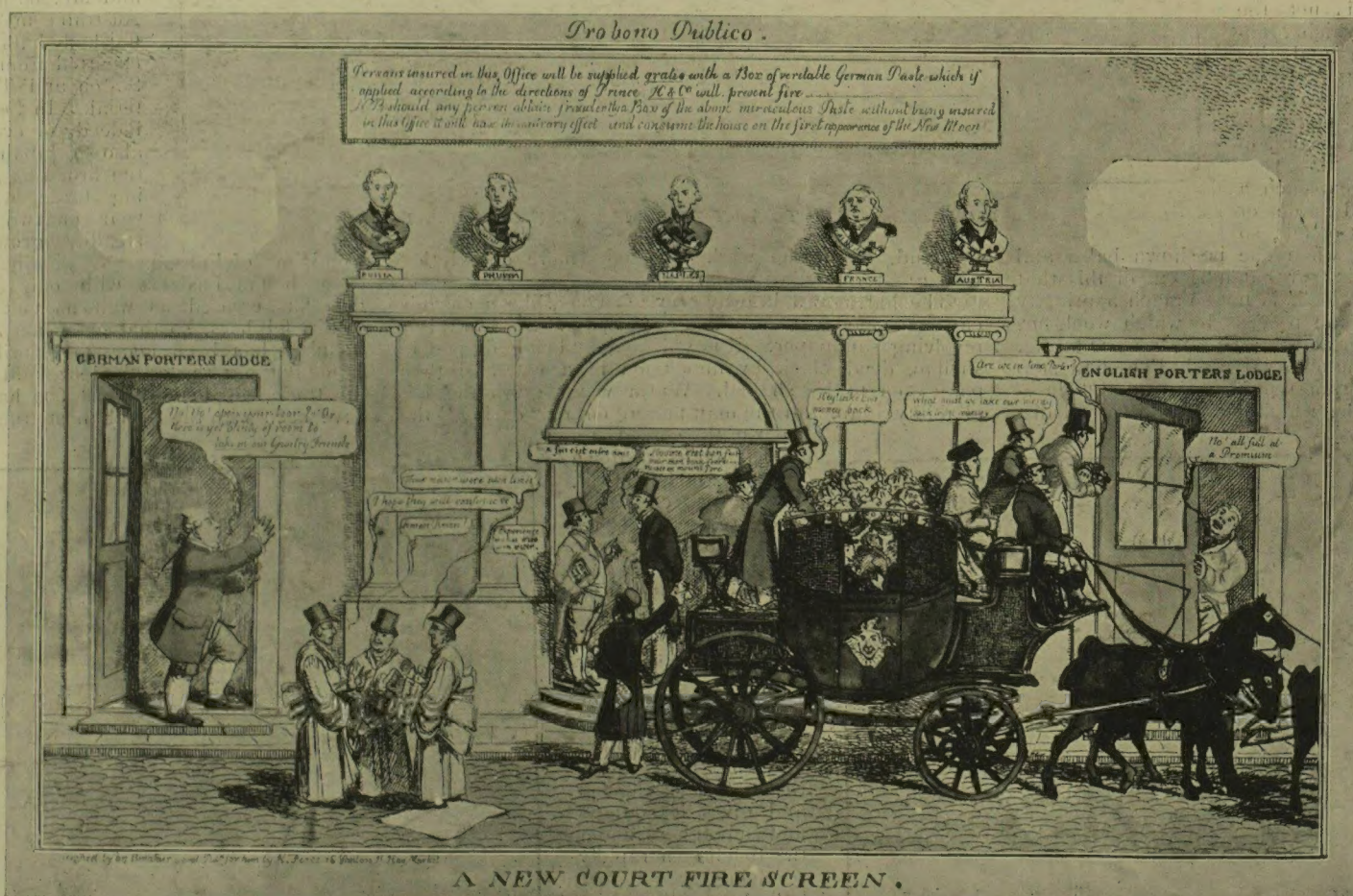
The growth of the Company's business and its extension to meet every contingency in modern life are shown by its accumulation of funds to the amount of more than £16,500,000, and its issue of policies for life assurance under conditions too numerous to be set down here; the granting of annuities; fire insurance, including loss by lightning; marine insurance, workmen's compensation, personal accident and disease; motor-car third-party and driver's risks, plate-glass, hail-storm, burglary and larceny insurances; fidelity guarantees, leasehold, investment and capital redemption policies; while proposed legislation adds present importance to the Alliance policies which provide for the payment of death duties.



IN 1909: THE BUILDING OF THE ALLIANCE ASSURANCE COMPANY, KING STREET AND CROSS STREET, MANCHESTER.

is to combine the highest public utility with the greatest individual benefit to the Proprietors. It is confidently expected that this will be attained in a greater degree

which a drawing will be found on this page, were erected in 1894 at the corner of King Street and Cross Street, and the present Secretary of the branch is



IN 1824: A CARICATURE OF THE TIME SHOWING A COACH LADEN WITH GOLD ARRIVING AT NEW COURT, ST. SWITHIN'S LANE, LONDON. Nathan Meyer Rothschild went to Manchester in 1797, and began the buying of cotton fabrics for the German Market. In 1805 he moved to London; in 1824, with leading London bankers and merchants, he formed the Alliance Assurance Company. He was so well remembered in the northern town that, when the prospectus was issued, a remarkable number of applications for shares came from Manchester. This led to the production of the caricature here reproduced. As a matter of fact, however, London and the neighbourhood applied for shares to such an extent that the lists were closed before the arrival of the Manchester coach at St. Swithin's Lane.